

***United States Court of Appeals  
for the  
District of Columbia Circuit***



**TRANSCRIPT OF  
RECORD**



868

JOINT APPENDIX

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**United States Court of Appeals**

FOR THE DISTRICT OF COLUMBIA CIRCUIT

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NO. 20,838

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WALTER M. FREEMAN,

*Appellant,*

v.

EDWARD J. BRENNER,  
Commissioner of Patents,

*Appellee.*

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APPEAL FROM THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA

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United States Court of Appeals  
for the District of Columbia Circuit

FILED MAY 8 1967

*Nathan J. Paulson*  
CLERK

(i)

## TABLE OF CONTENTS

Docket Entries .....	1
Complaint .....	2
Answer .....	4
Opinion of Trial Court .....	5
Defendant's Motion to Amend Answer .....	10
Order Granting Motion to Amend .....	11
Findings of Fact and Conclusions of Law .....	11
Order Dismissing Complaint .....	15
Examiner's Answer .....	15
Decision of Board of Appeals .....	21
Patent Application in Issue (Specification) .....	25
Patent Application in Issue (Drawing) .....	31
Claims on Appeal .....	33
Transcript of Trial Proceedings .....	34
Opening Statement on behalf of Plaintiff .....	35
Opening Statement on behalf of Defendant .....	39
Testimony of Walter M. Freeman .....	40
Closing Statement on behalf of Plaintiff .....	63
Closing Statement on behalf of Defendant .....	70
Rebuttal Statement on behalf of Plaintiff .....	74
Exhibits:	
Plaintiff's:	
No. 2, American Optical Brochure .....	79
Defendant's:	
No. 1-A - Courmettes patent 2,574,960 .....	85
No. 1-B - Tillyer patent 2,356,670 .....	91
No. 1-F - Davis et al. - American Journal of Optometry and Archives Vol. 33, pages 643-660 (643-649 printed) Dec. 1956 .....	97



**APPENDIX**

**UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA**

WALTER M. FREEMAN  
9th and Linden Streets  
Allentown, Pennsylvania,  
Plaintiff,

v.

EDWARD J. BRENNER  
Commissioner of Patents  
Washington, D.C. 20231  
Defendant.

Civil Action No. 1741-65

**DOCKET ENTRIES**

July 19, 1965 — Deposit for cost by

July 19, 1965 — Complaint Appearance

July 19, 1965 — Summons copies (3) and copies (3) of Complaint  
issued Deft. & U.S. Attorney served 7/20/65 — Atty. Gen. served  
7/24/65

August 13, 1965 — Answer of deft. to complaint; c/m 8/12/65; ap-  
pearance of C. W. Moore, filed.

August 13, 1965 — Calendared (AC/N) (N)

January 27, 1966 — Stipulation setting trial date for May 17, 1966,  
Approved. (N) Jackson, J.

November 7, 1966 — Appearance of Milton A. Kallis as co-counsel  
for plttf. (AC/N), filed.

November 14, 1966 — Motion of defendant to amend answer; points  
and authorities; exhibit; c/m 11/8/66; MC 11/14/66.

November 16, 1966 — Hearing begun; recess until November 17,  
1966. (Rep. G. Nevitt) Holtzoff, J.

November 17, 1966 — Hearing resumed and concluded; finding for deft. vs. plttf. (Order to be presented) (Rep. G. Nevitt) Holtzoff, J.

December 5, 1966 — Order granting motion of defendant to amend answer; answer considered amended by addition of matter set forth in said motion. (N) Holtzoff, J.

December 5, 1966 — Findings of Fact & Conclusions of Law (N). Holtzoff, J.

December 5, 1966 — Order dismissing complaint, with costs against plaintiff (N) Holtzoff, J.

December 29, 1966 — Transcript of proceedings, Vol I pages 1-106, dated November 16, 17, 1966, Court's copy (Rep. Gerald Nevitt). filed.

February 2, 1967 — Notice of appeal of Plaintiff; deposit by Misegades \$5.00 (copy mailed to Joseph Schimmel), filed.

February 2, 1967 — Cost bond on appeal of plttf. in amount of \$250.00 with Hartford Accident & Indemnity Co., approved; filed.

February 15, 1967 — Exhibits (2) of deft.

February 27, 1967 — Designation of record on Appeal by plttf., filed.

March 3, 1967 — Exhibits 2 and 3 of plttf., filed.

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[Filed July 19, 1966]

### COMPLAINT FOR LETTERS PATENT

To the Honorable the Judges of the United States District Court for the District of Columbia:

WALTER M. FREEMAN, the Plaintiff herein, brings this Complaint for Letters Patent against Edward J. Brenner, Commissioner of Patents, Defendant, and alleges that:

1. The Plaintiff herein, Walter M. Freeman, is a resident of Allentown, Pennsylvania, and the Defendant, Edward J. Brenner, is the United

States Commissioner of Patents, and is officially a resident of Washington, in the District of Columbia.

2. This complaint is filed in accordance with the provisions of the Patent Statutes of the United States, specifically Title 35, United States Code, Section 145.

3. On or about February 8, 1963, the said Walter M. Freeman duly made application in writing in the United States Patent Office for the grant of Letters Patent to him for Lenticular Bifocal Cataract Ophthalmic Lenses, which application was given Serial No. 258,116. Said application for patent was a continuation of application Serial No. 672,735, filed July 18, 1957.

4. Said application for Letters Patent contains claims to which Plaintiff believes himself entitled, said claims being numbered 1 to 8, inclusive.

5. Thereafter, said application for Letters Patent was examined by the Examiner in charge thereof, who on November 15, 1963, finally rejected the above numbered claims. On May 14, 1964, an appeal was duly taken to the Board of Appeals of the United States Patent Office and, on May 18, 1965, said Board of Appeals rendered its decision, affirming the rejection of the claims by the Examiner.

6. Plaintiff alleges that the decision of the Board of Appeals adjudging the Plaintiff not entitled to Letters Patent for the said application was erroneous and contrary to law.

7. Plaintiff further alleges that no appeal has been taken by him to the United States Court of Customs and Patents to issue said Letters Patent, and that the Complaint for Letters Patent herein is filed within sixty (60) days following the final decision of the Board of Appeals refusing to allow the above-numbered claims and issue Letters Patent on the said Lenticular Bifocal Cataract Ophthalmic Lenses.

8. Plaintiff makes profert of a certified copy of the aforesaid application for Letters Patent, Serial No. 258,116, and all proceedings and papers in the file thereof, together with certified copies of the pat-



ents forming the basis for the aforesaid decision refusing to allow the claims and issue Letters Patent on said invention, said certified copies to be produced as and when this Honorable Court shall direct.

WHEREFORE, Plaintiff respectfully prays as follows:

For a decree that Plaintiff is entitled to receive Letters Patent for the application for Lenticular Bifocal Cataract Ophthalmic Lenses, described and claimed in the aforesaid application, Serial No. 258,116, and to authorize the Commissioner of Patents to issue Letters Patent in due form of law and as prescribed by the Statutes.

WALTER M. FREEMAN

By: George R. Douglas, Jr.

OF COUNSEL:

Keith Misegades  
Washington, D.C. 20005

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[ Filed August 13, 1965 ]

#### ANSWER TO COMPLAINT

To the Honorable the Judges of the United States District Court for the District of Columbia

1, 2, 3. The defendant admits the allegations of paragraphs 1, 2, and 3 of the complaint.

4. The defendant admits that plaintiff's application for Letters Patent, Serial No. 258,116, contains claims numbered 1 to 8, inclusive. Otherwise, however, the defendant denies the allegations of paragraph 4 of the complaint.

5. The defendant admits the allegations of paragraph 5 of the complaint.

6. The defendant denies the allegations of paragraph 6 of the complaint.

7, 8. The defendant admits the allegations of paragraph 7 and 8 of the complaint.

FURTHER ANSWERING, the defendant asserts that the plaintiff is not entitled to a patent containing any of claims 1 through 8 of his application, Serial No. 258,116, involved in this civil action, for the reasons given and in view of the references cited in the Examiner's answer and the decision of the Board of Appeals in that application. Profert hereby is made of copies of the said answer, decision, and references.

Respectfully submitted,

/s/ C. W. Moore

Solicitor, United States Patent Office  
Attorney for Defendant

[Certificate of Service, dated August 12, 1965]

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[Filed December 29, 1966]

[99]

#### OPINION OF THE COURT

THE COURT: This is an action against the Commissioner of Patents under 35 United States Code 145 to authorize the issuance of a patent to the plaintiff on an application which the Commissioner had rejected.

The application was filed on February 8th, 1963 and it is Serial Number 258,116. The invention consists of an improvement in lenses intended for use in eyeglasses for persons from whose eyes cataracts have been removed by an operation. One of the problems, according to the evidence, that arises in connection with persons in that condition is that too often eyeglasses that are fitted for them do not permit of a sufficient side vision but allow only what is called in the art tunnel vision, that is, solely forward vision.

The plaintiff, who is an optician, testified that prior to his invention the curve on lenses for such eyeglasses was generally spherical. Having seen a parabolic curve used for apparatus of a different type, it occurred to him that lenses for cataract persons might be improved by using a parabolic curve instead of a spherical curve because a [100] parabolic curve would concededly give much broader vision on each side.

The patent application covers the substitution of a parabolic curve for a spherical curve in a single piece lens intended for eyeglasses for persons whose cataracts have been removed.

The evidence showed that lenses embodying plaintiff's invention have been in fact manufactured and are available commercially.

It is not disputed that the plaintiff has made an advance in the art. His contribution appears to be praise-worthy and useful. It is not, however, every advance, every improvement, and every new idea that is accorded a patent monopoly under the patent law. In order to be worthy of a patent the improvement or the advance must be more than the product of mechanical skill of a person ordinarily skilled in the art in which he works. It must be the product of what has been called the inventive faculty.

Many years ago the Supreme Court in *Atlantic Works v. Brady*, 107 U.S. 192, 200, made the following pointed statement:

"It was never the object of those laws to grant a monopoly for every trifling device, every [101] shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufacture."

The test presently applied is phrased in the statute, 35 United States Code 103, as follows:

"If the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was



made to a person having ordinary skill in the art to which said subject matter pertains"

a patent may not be obtained on the alleged invention.

The Supreme Court has recently held that the two different ways of stating the test of patentability are equivalent and the same.

So that the question in this case is whether the plaintiff's improvement was a product of mechanical skill or of the inventive faculty, or to put it in a different way, whether the difference between the prior art and the improvement devised by him is such that it would have been obvious at the time that the invention was made to a person having ordinary skill in the art.

[102] This brings us to a consideration of the prior art. Counsel for the Patent Office relied in this Court principally on two prior patents. The first was a patent to Courmettes, No. 2,574,960, issued on November 13th, 1951. This patent disclosed a one-piece segment lens for cataract eyeglasses. The curvature shown in the Courmettes patent, however, was of a spherical type and not parabolic.

The second patent relied on by the Patent Office and its counsel is the patent to Tillyer, No. 1,356,670, issued on October 26, 1920. The Tillyer patent relates to optical lenses generally. It seems appropriate to analyze the disclosure contained in that patent. At the outset it stated that the invention "relates to ophthalmic lenses for the correction of errors of human vision and particularly to that type of lens which has been corrected for marginal aberrations of focus and astigmatism." Later on it states that aberrations may be corrected by deforming the surfaces of the lens. Finally, it states:

"A deformed curve is one which is not a regular spherical, cylindrical or toric curve, such as hitherto used in the manufacture of ophthalmic lenses but which is a variable curve, such as elliptical, parabolic, etc."

[103] Thus the Tillyer patent discloses the possibility of using parabolic curves in the manufacture of optical lenses.

In the light of the prior art the Patent Office tribunals held that it did not require invention but it was obvious to adapt the parabolic curve suggested in the Tillyer patent to a lens intended for cataract eyeglasses described in the Courmettes patent. This was one of the principal grounds for rejecting the patent.

This brings the Court to a consideration of the scope of review. The subject has been discussed in recent cases decided by the Court of Appeals for this Circuit. In *Zenith Radio Corp. v. Ladd*, 114 App. D.C. 54, 57, the Court stated that great weight should be placed on the findings of the Patent Office, at least in the absence of new evidence carrying thorough conviction that had not been considered by the Patent Office.

In *Goodyear Tire and Rubber Co. v. Ladd*, 121 App. D.C. 275, 276, it was said that:

"The Patent Office's expertness in determining technical questions such as obviousness require affirmance of its judgments unless they have no rational basis."

The latest decision on this point is *Stieg v. [104] Commissioner of Patents*, 353 F.2d 899, in which the Court of Appeals repeated that unless new evidence is introduced that brings thorough conviction that the judgment of the Patent Office was invalid, the Court should accord the judgment of the Patent Office on the issue of obviousness a presumption of validity.

In a highly technical or scientific field such as optics the views of experts on the question of obviousness of an advance are obviously very weighty.

In this instance we have the views of impartial experts of the Patent Office to the effect that the advance made by the plaintiff would have been obvious to a person reasonably skilled in the art. In other words, that it was the product of mechanical skill and not of the inventive faculty.

The plaintiff did not introduce any new evidence that was not before the Patent Office. The plaintiff himself was the sole witness. He described how he happened to get the idea for his invention in the course of his work as an optician and observation of difficulties of his customers. This matter has already been referred to. He did express the opinion that his advance would not have been obvious to a person skilled in the art. Naturally, although the Court has [105] no doubt of his sincerity or probity, he has a partisan point of view and his opinion is not sufficient to overcome the highly skilled and expert opinions of the Patent Office, especially because officials of the Patent Office are neutral and impartial in such matters, as well as acquiring and developing a high degree of skill.

Independently of these considerations the Court, even if the scope of review was much broader, would arrive at the same conclusion. Here we have a disclosure that suggests the use of parabolic curves for eyeglasses generally. It may well be that the plaintiff was not aware of the Tillyer patent, but that of course plays no part in the determination of the merits of the case. It would seem that a person reasonably skilled in the art and working in the field would, as a progressive step forward, adapt a parabolic curve to the lenses involved in this case. It is an improvement, but the kind of an improvement that is the product of mechanical skill rather than of the inventive faculty.

The Court, therefore, perceives no reason for setting aside or disagreeing with the conclusion of the Patent Office that the subject matter of the application is not patentable.

[106] This makes it unnecessary to pass upon the defense of res judicata adduced by the Patent Office. This defense is predicated on the fact that the application involved in this case was a continuation of a prior application and that similar claims in the earlier application were rejected and no appeal was taken.

In the light of the considerations just discussed the Court will render judgment for the defendant dismissing the complaint.

Counsel may submit proposed findings of fact and conclusions of law.

(The trial stood concluded.)

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[Filed November 14, 1966]

**MOTION TO AMEND ANSWER**

Defendant moves to amend his answer by adding thereto the following:

"FURTHER ANSWERING, the defendant asserts that, in view of the affirmance by the Board of Appeals of the examiner's rejection of claims 1, 2, 3, 4, 7, 12, 13, and 14 in plaintiff's parent application Serial No. 672,735, filed July 18, 1957, plaintiff is not entitled to a patent containing any of claims 1 through 8 of the instant application Serial No. 258,116, filed February 8, 1963, since the latter claims do not set forth subject matter patentably different from the subject matter of the former claims respectively and that therefore the claims before this Court are unpatentable on the ground of res judicata. Profert is hereby made of a certified copy of plaintiff's abandoned application Serial No. 672,735."

Oral hearing at the trial on November 16, 1966, is requested.

Respectfully submitted,

/s/ JOSEPH SCHIMMEL  
Solicitor, United States Patent Office  
Attorney for Defendant

George C. Roeming  
Of Counsel

[Certificate of Service, dated November 8, 1966.]

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[Filed December 5, 1966]

**ORDER**

Defendant having brought a motion to amend his answer, and the court having considered the arguments of both parties with respect thereto, it is this \_\_\_\_\_ day of \_\_\_\_\_, 1966,

ORDERED that the defendant's motion to amend his answer be and is hereby granted and that said answer be considered amended by addition of the matter set forth in the motion.

JUDGE

---

[Filed December 5, 1966]

**FINDINGS OF FACT**

1. This is a civil action under 35 U.S.C. 145 in which plaintiff, Walter M. Freeman, as the applicant for patent in application Serial No. 258,116, filed February 8, 1963, entitled "Lenticular Bifocal Cataract Ophthalmic Lenses," sought to have the court authorize the issuance to him of a patent containing claims 1 through 8 of said application. No claim has been allowed. The instant application is a continuation of plaintiff's application Serial No. 672,735, filed July 18, 1957.

2. The following representative claims are self-explanatory as to the substance of plaintiff's application:

2. An integrally formed, one-piece, lenticular, bifocal, aphakic, ophthalmic lens, of uniform refractive index, composed of hard plastic, the outer faces of the distant-vision and near-vision portions of which are each a paraboloidal surface, symmetrical about a central vertical axis at right angles to the optical axis.

3. A bifocal, aphakic, ophthalmic lens, of uniform refractive index, composed of cast hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface, symmetrical about a central vertical axis at right angles to the optical axis.

3. In the parent application the plaintiff's statement of objects of invention included the following:

A principal object is to provide an improved, bifocal lenticular, cataract lens having a bifocal segment portion giving a wide-angle or panoramic effect to the field of vision, a feature so desirable for patients requiring cataract lenses.

\* \* \*

Another important object is to provide a bifocal, cataract lens which minimizes peripheral distortion.

\* \* \*

Yet another important object of my invention is the provision for wearers of cataract lenses of optical compensation for the varying distances of portions of the lenses from the center of the pupil of the eye.

4. The examiner and the Board of Appeals found plaintiff's claims 1 through 8 unpatentable over various prior patents and a publication including the Courmettes patent No. 2,574,960 and the Tillyer patent No. 1,356,670. This court granted the motion of the Commissioner of Patents to amend his answer to assert an additional ground of unpatentability, namely that of res judicata based on the decision of the Board of Appeals in plaintiff's original application Serial No. 672,735, filed July 18, 1957, of which the instant application is a continuation.

\* \* \*

[Certificate of Service, dated November 21, 1966]

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\* \* \*



5. The Courmettes patent No. 2,574,960 discloses an integrally formed, one-piece plastic cataract bifocal segment lens. This patent does not disclose the use of parabolic or paraboloidal lens surfaces.

6. The Tillyer patent No. 1,356,670 discloses an improved lens and two methods of making it. The improved lens includes correction for aberrations of focus which are not obtainable with unmodified spherical surfaces. In the first and here not relevant method of making the improved lens, Tillyer grinds the imperfectly corrected non-parabolic lens of the art prior to him and then grinds the lens minutely and locally until it is correct as to focus in all sections. In the second and here relevant method, Tillyer calculates such mathematical curves as will give the approximate desired results, namely correction of focus in all sections, and grinds the surfaces to these curves on grinding mechanism designed to trace these mathematical curves. Tillyer discloses the parabolic curve as a suitable curve for his second method.

7. Plaintiff in his brief before the Board of Appeals in the instant application admitted the following:

One-piece cast plastic lenses are already known in conventional bifocal types and also for cataract patients in the monofocal type.

8. Plaintiff's Exhibit 2 illustrates by photographs (1) the wide out-of-focus margins (marginal aberration) of the field of view in a cataract bifocal lens having a spherical distant vision surface and (2) the improved focus in the marginal portions of the same field of view in a lens different only in having a paraboloidal distant vision surface or its equivalent.

9. It would be obvious to one skilled in the art to substitute, for the surface curvatures of the distant vision portion or of the near vision portion or of both portions of the Courmettes integrally formed one-piece plastic cataract bifocal segment lens, a parabolic or paraboloidal surface as in Tillyer calculated as in Tillyer to produce correction for

or minimize aberration of focus in any section of the Courmette lens portions.

10. It would be obvious to one skilled in the art to substitute, for surface curvatures of the distant vision portion or of the near vision portion or of both portions of the Courmettes integrally formed one-piece plastic cataract bifocal segment lens, a parabolic or paraboloidal surface as in Tillyer calculated as in Tillyer to produce correction of errors of human vision.

11. The Tillyer patent No. 1,356,670 discloses spherical, toric, cylindrical, eiliptical, and parabolic curves for lens surfaces. It would be obvious to one skilled in the art in view of the Tillyer patent that for any mono-focal lense surface of the Courmettes plastic cataract bifocal segment lens a mono-focal surface based on a parabolic curve could be substituted.

12. The subject matter of plaintiff's claims 1 through 8 would be obvious to one skilled in the art in view of the prior art.

13. Plaintiff's evidence fails to establish that there is no rational basis for the Patent Office refusal of the instant claims 1 through 8 on the ground that their subject matter would be obvious to one skilled in the art in view of the prior art.

#### CONCLUSIONS OF LAW

1. Plaintiff's claims 1 through 8 are unpatentable because they fail to meet the standard of patentable invention of 35 U.S.C. 103.

2. Plaintiff is not entitled to a patent containing any of claims 1 through 8.

3. In view of the foregoing findings of fact and conclusions of law, it is unnecessary to pass upon the defense of res judicata.

4. The complaint should be dismissed.

JUDGE

---

[ Filed December 5, 1966 ]

**JUDGMENT**

This action came on to be heard, and thereupon on consideration thereof, it is this \_\_\_\_\_ day of \_\_\_\_\_, 1966,

ADJUDGED that the complaint be and it is hereby dismissed, with costs against the plaintiff.

JUDGE

---

**EXAMINER'S ANSWER**

This is an appeal from the final rejection of claims 1-8. No claim has been allowed.

The copy of claims 1-6, 8 on pages 3-5 of the brief is correct. The copy of claim 7 omits the wording "being about 14 diopters at the center and 11 diopters at the side edges" at the end of said claim.

The references of record relied on are:

1,356,670	10/20	Tillyer
1,932,100	10/33	Culver et al.
2,574,960	11/51	Courmettes
2,890,486	6/59	Crandon
3,776	A.D. 1915	Gowlland
(British)	(1 sht. dwg.; 2 pp. spec.)	

Davis et al. "An Approach to the Problem of a Corrected Curve Achromatic Cataract Lens" American Journal of Optometry and Archives, Vol. 33, No. 12, Dec. 1956, Pages 643-660. Copy available in Patent Office Scientific Library. 88-54

The description of the invention on pages 1-3 of the brief is considered adequate. However, the remarks regarding the procedure in which the paraboloidal surfaces are formed are not considered relev-

ant to the question of allowability of the claims since they are drawn to a finished product.

#### BRIEF DESCRIPTION OF THE REFERENCES

Tillyer discloses an ophthalmic lens in which both surfaces may be parabolic, line 34 of column 1 on page 2. The lens is stated as being corrected for marginal aberrations, lines 10-15 of page 1. In lines 90-95 of page 1 and in lines 12-18 of page 2 Tillyer states that the marginal errors are important when strong powers are involved. These errors are corrected by using deformed surfaces such as eiliptical, parabolic, etc.

The Culver et al. patent discloses a cataract bifocal lens providing "a relatively large field of view as well as separate powers for distance and near vision", lines 22-25, column 1, page 1. The distance and near vision portions B and C have the same refractive index and are carried by a support A. The difference in power between the two portions is provided by forming depressions b and c of different radii in the support A. The surfaces of the lens portions are considered to be spherical in form.

Courmettes discloses a one-piece ophthalmic bifocal cataract segment lens. As can be seen in Fig. 2 the rear surfaces 2 and 3 of the segment lens 1 are inclined with respect to one another to improve the line of vision through the near and distance parts. Courmettes states in lines 47-53 of column 1 "visual areas present a front substantially normal to their respective axes thereby avoiding distortion caused by obliquity of the line of sight relative to and through such strong convex corrective lens." The segment lens 1 is secured to a supporting lens 11 of biplanar form (Fig. 3) and of no dioptric power. The segment lens 1 may be made from a number of materials such as plastics as taught in line 25 of column 3.

Crandon discloses a mold which can be used to cast plastic ophthalmic lenses. In column 4, lines 39-49, Crandon teaches that lens ele-

ments having any desired properties can be formed with the mold by controlling the curvatures of the forming surfaces 17 and 23 of the mold halves.

Gowlland discloses a multi-focal eyeglass lens having a surface of parabolic curvature on one side and a surface of other form on the other side. In line 29 of page 1 Gowlland teaches that the parabolic curvature may be on the convex face of the lens. The multi-focal property is inherent in the parabolic curvature on one face. This property is utilized in providing a "gradual change in the curvature of the lens from the top to the bottom edges", lines 24 and 25 of page 1. In lines 15 and 16 of page 2 Gowlland states that the lens may be made such that the reading focus of the lens may be a short distance from its lower edge.

The Davis et al article is concerned specifically with the design of an aspheric (nonspherical) cataract lens. Four different forms of cataract lenses are shown in Fig. 3, it being noted that lens C is an aspheric bifocal cataract lens. The lens C is captioned as a singlet and therefore has a uniform refractive index. The first paragraph of page 646 teaches that the use of an aspheric surface makes possible the "blending" of the border line on the lenticular lens.

#### APPLICATION OF THE REFERENCES TO THE CLAIMS

A. Claims 1-8 are considered to be unpatentable over either Courmettes or Culver et al, each taken in view of anyone of Tillyer, Gowlland or the Davis et al. article. Most of the issues involved in the claims on appeal have been resolved in the Board of Appeals Decision in the parent case Application Serial No. 672,735, filed July 18, 1957. In this connection it is pointed out that claims 1-8 in the present case correspond with claims 1-4, 7, 12, 13, and 14, respectively in the parent case except for minor differences which will be discussed below.

Claims 1 and 2 differ from claims 1 and 2 of the parent case in the addition of the wording "integrally formed" to line 1. It is not seen that this limitation avoids the references because the cataract lenses of both

Courmettes or Culver et al. are integrally formed. The two parts 1 and 11 of the Courmettes lens (Fig. 4) are obviously joined together and thus form an integral member. In any event the lens C shown in Fig. 3 of the Davis et al. article fits the description of "an integrally formed, one-piece, lenticular, bifocal, aphakic, ophthalmic lens, of uniform refractive index" as claimed. Further, there is no indication that the two parts 1 and 11 of the Courmettes lens have different refractive indices. Actually, as far as the issue in claims 1 and 2 of a plastic, integrally formed, one-piece lenticular bifocal aphakic, ophthalmic lens of uniform refractive index is concerned it is pointed out that Courmettes refers to the part 1 as a "one-piece segment lens". Thus, the lens segment 1 shown in Figs. 1 and 2 of the Courmettes patent meets all of the limitations in claims 1 and 2 except for the paraboloidal curvature of the distance and near vision portions. This latter mentioned limitation has already been resolved as being obvious in view of the secondary references. Thus, it is considered that Res Judicata applies to the issue of paraboloidal curvature in these claims.

Claims 3-8 differ from claims 3, 4, 7, 12 13 and 14, respectively, of the parent case in that the term "cast" has been added to point out that the material from which the lens is formed composes cast hard plastic. It is also noted that the term "one-piece" does not appear in the preamble of claims 3-8 and therefore is not an issue in these claims. On page 9 of the brief, last paragraph, applicant states that the additional limitation "cast" appears in claims 3-8 on the strength of a statement made in the Board of Appeals Decision in the parent case. The particular statement as quoted on page 9 of the brief reads as follows:

"There is no proper reason to limit this term to a  
"cast" article since the claims do not use the term  
in quote."

It is considered that the term "cast" is not sufficient to make the claims patentable for two reasons. First, this term involves the process used in forming the plastic material for making the lens. The claims are



directed to a finished lens. It is believed that this reasoning is consistent with the statement "The difficulty with appellant's contention and argument is that the claims on appeal are directed to an article of manufacture and not to a method of making the same" on page 4 of the Board of Appeals Decision in the parent case. The finished lens can be defined without referring to the process in which the plastic material is formed. Actually, the wording "composed of cast hard plastic" does not require the paraboloidal surface to be formed while the plastic is being "cast". Second, the concept of "casting" plastic lenses is considered to be an obvious expedient in the art. Applicant recognizes this fact on page 1 of the brief with the statement "one-piece cast plastic lenses are already known in conventional bifocal types and also for cataract patients in the monofocal type". It is considered that it would be obvious to cast plastic bifocal cataract lenses such as shown in Courmettes since the problem of designing a mold for such lenses would be the same as for ordinary bifocal lenses, i.e. the mold surfaces must be shaped to conform with the desired lens shape.

B. Claims 3-8 are considered to be unpatentable over either Culver et al. or Courmettes, each taken in view of anyone of Tillyer, Gowlland, or the Davis et al. article, when further taken in view of Crandon. The Crandon patent shows that it is conventional in the ophthalmic lens art to cast plastic lenses of any desired shape. Crandon teaches in lines 39-49 of column 4, as noted above, that lenses are formed by controlling the curvatures of the forming surfaces of the mold halves. Thus, it is considered that a cataract lens such as shown in the Courmettes patent could be cast in the manner suggested by Crandon merely by shaping the forming surfaces of the mold halves with depressions conforming with the desired lenticular surface. Specifically it would be obvious to cast a lenticular cataract lens having parabolic near and distant vision portions by designing the mold with the desired parabolic curvature in view of the combination of references above. It is consid-

ered that all of the issues in these claims except for the "cast" limitation involves Res Judicata.

# RESPONSE TO THE ARGUMENTS IN THE BRIEF

The references to a Rule 131 Affidavit on pages 9, 13 and 14 of the brief are not relevant to the issues on appeal since the petition to have the Affidavit considered was denied.

The companion British patent 5583/15 mentioned on page 7 of the brief was not relied on by the Examiner and is not considered necessary to the issues on appeal.

The quote from the Davis et al article on page 8 of the brief does not present the full picture of the aspheric cataract lens being discussed. In this connection the article teaches in the first paragraph of page 647 that "To all intents and purposes such a lens may be considered well corrected."

The argument on page 10 of the brief that product by process limitations are proper if the limitations of the English language otherwise prevent applicant from claiming his product is not persuasive because in the instant case the English language will permit the lens to be clearly defined by article limitations.

Applicant argues on page 13 that it would be impossible to grind a concave mold to correspond with the convex surfaces of the Courmettes lens. This argument is not persuasive because lens makers have long known how to grind spherical and parabolic surfaces. The Tillyer patent, page 2, lines 19-29, teaches that lens surfaces having mathematical curves can be ground on grinding mechanisms designed to trace such mathematical curves. Further, this argument is inconsistent with the teaching in the present specification, page 3, last few lines, that a master mold can be ground in reverse fashion so as to form the desired surface shape. Thus, the Crandon patent is specific to the issue of casting a desired lens by controlling the shape of the mold.

The argument on page 14 of the brief that there is no suggestion in the references of how they can be combined has been noted. The criteria as to whether the combination is proper depends on whether it would be obvious for one skilled in the art to combine the teachings in the references to make the claimed lens with or without such a suggestion. In the instant case it is considered that no suggestion is necessary because one working in the ophthalmic lens art could readily form parabolic surfaces on the Courmettes cataract lens (by casting if desired) since only common expedients in the art which give the expected results would be involved.

For reasons above the final rejection of claim 1-8 is considered proper and should be affirmed.

Respectfully submitted,

JKCorbin/1ch

Examiner

Conferees:

F. M. Strader:

D. H. Rubin:

Keith Misegades

804-807 Washington Bldg.

Washington, D.C. 20005

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### DECISION OF BOARD

This appeal is from the final rejection of claims 1 to 8, inclusive, which are the only claims remaining in this case.

The following references are relied on in the Examiner's Answer:

Tillyer	1,356,670	Oct. 26, 1920
Culver et al.	1,932,100	Oct. 24, 1933
Courmettes	2,574,960	Nov. 13, 1951
Crandon	2,890,486	June 16, 1959
Gowlland (British)	3,776	A.D. 1915

Davis et al., "An Approach to the Problem of a Corrected Curve Archromatic Cataract Lens", American Journal of Optometry and Archives, Vol. 33, No. 12, Dec., 1956, pages 643-660.

Claims 1 to 8, inclusive, are finally rejected as unpatentable over each of the patents to Courmettes and Culver et al., taken in view of Tillyer, Gowlland or the article by Davis et al., with a further reliance on Crandon as to claims 3 to 8, inclusive.

Claims 1 to 8, inclusive, correspond respectively to claims 1, 2, 3, 4, 7, 12, 13 and 14 in the parent application, Serial No. 672,735, with the following changes: the words "integrally formed" have been added to claims 1 and 2 and the words "composed of cast" have been substituted for "one-piece" in the remaining claims.

In the parent application we held (in Appeal No. 425-21) it was obvious to modify the outer faces of the distant-vision and the near-vision portions of the lenses in Courmettes or Culver et al., in view of the teachings of the same secondary references relied on in the rejection of the claims at bar. We also held that the term "one-piece", appearing in each of the claims, given its broadest meaning is merely descriptive of an integral member (emphasis herein added), and that said term has full response in a structure that in its manufacture is made from two or more pieces fused together. In the case of Henderson v. Grable, 52 CCPA \_\_\_, 339 Fed. (2d) 465, 144 USPQ 91, 812 O.G. 966, the Court of Customs and Patent Appeals held the term "integral" given the broadest construction the language will reasonably bear without resort to the specification from which it originated included a construction of a collar tightly screwed onto an outer pipe. Reference is also made to the recent holding in the case of In re Larson et al., 52 CCPA \_\_\_, 340 Fed. (2d) 965, 144, USPQ 347,814 O.G. 7, decided February 4, 1965, with respect to the coverage or meaning of the term "intengral". It is apparent from the above that claims 1 and 2 in this application present the same issue as was presented by claims 1 and 2 of the parent applica-

tion. We have carefully considered all of the arguments presented by the appellant in his brief, reply brief, and at the oral hearing, but find the claimed subject matter in claims 1 and 2 to be obvious for the reasons fully given in our decision in the parent application, to which reference is made since no useful purpose would be served in repeating the same herein. We also subscribe to the Examiner's further reliance on the element 1 shown in Figs. 1 and 2 of Courmettes in the rejection of these claims. The rejection of claims 1 and 2 is sustained.

As was noted above, claims 3 to 8, inclusive, distinguish from claims 3, 4, 7, 12, 13 and 14, respectively, in the parent application by the substitution of the words "composed of cast" for the term "one-piece". It was stated in the case of In re Bertsch, 30 CCPA 813, 551 O.G. 372, 132 Fed.(2d) 1014, 56 USPQ 379, that the words "composed of" may under certain circumstances be given, in patent law, a broader meaning than "consisting of". In the claims under consideration we will interpret the words "composed of" in the restrictive sense of "consisting of", which is most favorable to the appellant.

The Examiner takes the position that the term "cast" is not sufficient to make these claims patentable (meaning rendering them unobvious) for three reasons. First, that the said term involves the process used in forming the plastic material to make the lens, and he refers to a certain statement made in our said decision in the parent application in support thereof. We do not subscribe to this reason because the term "cast" is definitive of both structure and process, similar to such terms as forged, spun, etc. The statement in our decision, relied on by the Examiner, namely "The difficulty with appellant's contention and argument is that the claims on appeal are directed to an article of manufacture and not to a method of making the same" was, as is clear, in answer to certain contentions and arguments made with respect to the act, and has no bearing on the propriety of the use of the term "cast" as a description of structure.

The Examiner's second reason is that the concept of "casting" plastic lenses is an obvious expedient in the art, and he notes a recognition of the same by the appellant on page 1 of the brief (second sentence in the first paragraph under the heading "Subject Matter"). His third reason is that "cast" plastic lenses are old in the art, as evidenced by the Crandon patent, at lines 39 to 49 in col. 4, and that it would be obvious to make the cataract lens 1 of Courmettes, as modified by the teachings of Tillyer, Gowlland or the Davis et al. article, a "cast" lens. This third reason is set forth as a separate ground of rejection of claims 3 through 8. The second and third reasons should, in our opinion be considered as one since Crandon is in support of the Examiner's judicial notice of the obviousness of a cast lens and of appellant's admission.

We have considered all of the arguments presented in the brief and at the oral hearing but are not persuaded thereby that claims 3 through 8 are unobvious for the reasons given in our said prior decision as to the obviousness of modifying the lenses of either of the two primary references, Courmettes being preferred by us, and for the second and third reasons (which may be considered as one) given by the Examiner and noted above. The dioptic relationships set forth in claims 5, 6, 7, and 8 have not been argued by the appellant for the patentability of these claims and are, therefore, assumed to be conventional and obvious. Also, this aspect was considered and decided in the last full paragraph on page 4 of our said decision in the parent application. Accordingly, we sustain the rejection of these claims.

Reproduced on page 9 of the brief are two paragraphs from our decision in the parent application. The last sentence in the second paragraph is as follows: "There is no proper reason to limit this term (refers to the term 'one piece') to a 'cast' article since the claims do not use the term in quote." Appellant then states:

"On the strength of the observation in the last sentence quoted immediately above, the present application was filed wherein the additional limitation



integrally formed appears in Claims 1 and 2, and the additional limitation cast appears in Claims 3 to 8."

The said last sentence in the reproduced paragraphs from our decision was in answer to arguments advanced in the parent application. There is no intimation or suggestion in that sentence of our position with respect to the obviousness of the claims in the event they were amended to describe the lens in each claim as a "cast" lens.

We have not considered the affidavit under Rule 131 referred to in the brief because that affidavit was not entered by the Examiner and was not, therefore, before us. Nor have we considered the British patent No. 5583/15, listed on page 5 of the brief and discussed on page 7 of the brief, because that patent was not relied on by the Examiner. Also, said British patent is not necessary for an understanding of that part of the Crandon disclosure that was relied on in the rejection of claims 3 through 8.

The decision of the Examiner is affirmed.

AFFIRMED

Keith Misegades  
Washington, D.C. 20005

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**PLAINTIFFS SPECIFICATION**

LENTICULAR BIFOCAL CATARACT OPHTHALMIC LENSES

My invention relates to improvements in a bifocal lens, and more particularly to a lenticular cataract or aphakic lens.

A principal object is to provide an improved, bifocal lenticular, cataract lens having a bifocal segment portion giving a wide-angle or panoramic effect to the field of vision, a feature so desirable for patients requiring cataract lenses.

Another object of my invention is to provide a bifocal, cataract lens which is light in weight and thus can be worn with greater comfort.

Another important object of the invention is the provision of a minimum "spectrum" of basic lens forms to fit a wide range of cataract lens prescription requirements.

Yet another important object of my invention is the provision for wearers of cataract lenses of optical compensation for the varying distances of portions of the lenses from the center of the pupil of the eye.

Another object of my invention is for the provision of lenses of the type of my discovery on a mass-producible basis.

Other objects and advantages of my invention will become apparent from the following description taken in conjunction with the accompanying drawings.

In the past, it has been feasible to grind bifocal cataract lenses principally with spherical corrections, although an aspherical correction in the form of a cylindrical surface usually is incorporated in the lens. Spherical corrections are subject to the optical handicap of spherical aberration, and the aspherical cylindrical surface has disadvantageous unidirectional features in this connection.

It is the custom in the ophthalmic industry to shape the surfaces of glass lenses by grinding, since it is not practicable to produce glass lens blanks by molding, and in the multitude of surface shapes necessary to conform to the manifold combinations of prescriptions. In the grinding of the glass lens, it is subjected to automatic operations having a mechanical motion to impart a spherical; or in the case of a cylindrical correction, an aspherical curvature to the lens. It is not feasible to produce uniformly, by grinding, glass lenses of a parabolic or hyperbolic, aspherical shape due to the irregular variation of curvature inherent in such surfaces.

The wearer of a cataract lens desires a bifocal correction which will provide a comfortable correction for reading and near work, and also a distance correction which will give him clear vision to the periphery of the lens, so that sharp vision is afforded in all directions. Such a distance correction is not afforded by the long-standing spherical or

cylindrical corrections applied to the lens. By my discovery, considerable improvement in all-round visual acuity is made possible for wearers of cataract ophthalmic lenses.

I have discovered that a lens having a surface in the shape of a paraboloid of revolution, and thus affording such desirable optical advantages as wide-angle vision and freedom from spherical aberration, may be produced by the molding of a plastic lens to such a shape. The plastic material of such a lens is preferable as abrasion-resistant, and is known as a hard plastic. By a hard plastic, I mean more precisely a plastic which has a hardness as expressed on the conventional M-scale, in the range of 95 to 120, and above. An example of such an optically clear hard plastic is an allyl diglycol carbonate plastic, known as "CR-39", a thermosetting type compound. Other examples selected are a cast polyester material known as sierracin; and a polymethyl chloro acrylate compound sold under the trademark Gafite. Still other hard plastics are suitable for use.

Although the paraboloidal surface is most useful for the distant-portion vision of the lens, it is also useful when incorporated in the near-vision portion. As a specific example of the paraboloid surface as applied to the distant-vision portion of the lens, I refer to the center of the portion as having a plus 16 dioptral value, ranging in paraboloidal fashion to plus 13 diopters at the outer edge. The near-vision portion may be shaped in a paraboloid surface, with, for example, a plus 3 dioptral value at the center.

The mass-producible ophthalmic lens of my discovery may be produced by the use of a master mold, which may be composed of glass, carefully ground in reverse fashion, so as to form the desired paraboloidal-shaped surface, and similarly for the near-vision portion if desired. The hard plastic composition is placed in the mold, allowed to set and conform to the mold shape for the front surface of the lens, and then the parabolic lens so produced is later finished at the near or back surface with the usual spherical or cylindrical shape by grinding.

Referring to the drawings,

Fig. 1 is a cross-section view of a bifocal cataract lens of the invention.

Fig. 2 is a front or plan view of Fig. 1.

The paraboloid-of-revolution shape is imparted to the outer surface of the lens by means of a previously fabricated mold, accurately prepared. The back-side of the lens need not have any particular shape imparted to it, as it will subsequently be ground to the desired spherical or cylindrical shape, in accordance with the prescription.

Although the illustration is not precisely to scale, it is intended to show a lens, in which the distant-vision portion is shaped in a parabolic curve which varies from about plus 16 diopters at the center, to about plus 13 diopters at the outer edge, thus affording variable visual compensation. As few as two other sets of parabolic surfaces, such as plus 14 diopters at the center, and plus 11 diopters at the edges; and plus 12 diopters at the center with plus 9 diopters at the edges, complete a useful range of sizes, satisfying the requirements of a majority of cataract patients. The near-vision portions of the outer surface of the lens may have a curvature in the dioptral range of from 1 to 3, although usually it ranges from 2.5 to 3.0 diopters. The inner surface is left unfinished, ready for the individual prescription grinding. In this manner a "spectrum" of sizes are afforded by means of a few key surfaces.

Again referring to the drawings, in which similar reference characters denote corresponding parts throughout;

The distant-vision portion of the lens, designated as 1, is the paraboloidal surface ranging, for example, from plus 16 diopters at the center to about plus 13 diopters at the outer edges of said portion.

The near-vision portion of the lens, designated as 2, may also be produced in a paraboloidal surface, at the required dioptral values.

Surface 3, best shown in Fig. 2, is the base or "surround" of the lens, finished in the customary manner, usually at plus 6 diopters. This

surface finish affords a less abrupt transition from the prescription portion, and is usually provided in aphakic lenses.

Surface 4, shown in Figure 1, is the back surface of the lens finished in the usual way, as for example in the range of 1 to 3 diopters.

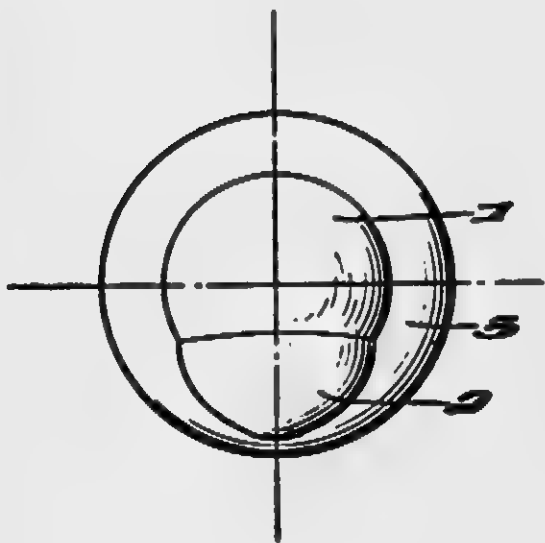
This application is a continuation of my abandoned application, serial No. 672,735, filed July 18, 1957; under 35 USC 120. I claim the benefit of the filing date of said application.

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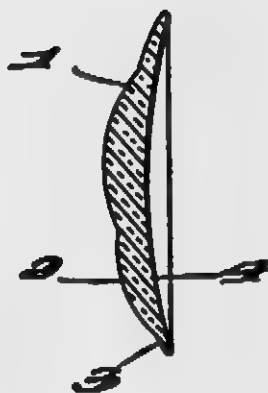




*Fig. 1.*



*Fig. 2.*



*Walter M. Freeman*  
INVENTOR

BY *Keith Misegades*  
ATTORNEY



### CLAIMS ON APPEAL

1. An integrally formed, one-piece, lenticular, bifocal, aphakic, ophthalmic lens, of uniform refractive index, composed of hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface, symmetrical about a central vertical axis at right angles to the optical axis.
2. An integrally formed, one-piece, lenticular, bifocal, aphakic, ophthalmic lens, of uniform refractive index, composed of hard plastic, the outer faces of the distant-vision and near-vision portions of which are each a paraboloidal surface, symmetrical about a central vertical axis at right angles to the optical axis.
3. A bifocal, aphakic, ophthalmic lens, of uniform refractive index, composed of cast hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface, symmetrical about a central vertical axis at right angles to the optical axis.
4. A lenticular, bifocal, aphakic, ophthalmic lens, of uniform refractive index, composed of cast hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface, symmetrical about a central vertical axis at right angles to the optical axis, the inner surface of which is unfinished ready for prescription grinding.
5. A lenticular, bifocal, aphakic, ophthalmic lens of uniform refractive index, composed of hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface symmetrical about a central vertical axis at right angles to the optical axis, said surface being 2 to 3 diopters greater in the center than at the side edges.
6. A lenticular, bifocal, aphakic, ophthalmic lens of uniform refractive index, composed of cast hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface symmetrical about a central vertical axis at right angles to the optical axis, said surface being about 16 diopters at the center and 13 diopters at the side edges.

7. A lenticular, bifocal, aphakic, ophthalmic lens of uniform refractive index, composed of cast hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface symmetrical about a central vertical axis at right angles to the optical axis, said surface being about 14 diopters at the center and 11 diopters at the side edges.

8. A lenticular, bifocal, aphakic, ophthalmic lens of uniform refractive index, composed of cast hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface symmetrical about a central vertical axis at right angles to the optical axis, said surface being about 12 diopters at the center and 9 diopters at the side edges.

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**EXCERPTS FROM PROCEEDINGS**  
[Washington, D.C.; Nov. 16, 17, 1966]

The above caused came on for trial before THE HONORABLE  
ALEXANDER HOLTZOFF, United States District Judge.

Appearances:

For the Plaintiff:

KEITH MISEGADES, ESQ.,  
MILTON A. KALLIS, ESQ.

For the Defendant:

GEORGE C. ROEMING, ESQ.

[3] THE DEPUTY CLERK: Freeman vs. Brenner.

THE COURT: You may proceed, gentlemen.

MR. KALLIS: If the Court please, I am co-counsel in this case for the plaintiff and I would like to introduce at this time Mr. Keith Misegades, who will conduct most of the examination and proceedings for the plaintiff. Mr. Misegades is admitted to the bar of all of the courts



of Tennessee, the United States District Court for the District of Columbia, and the United States Supreme Court.

THE COURT: He is a member of this bar?

MR. KALLIS: Not of this bar, and for that reason I would like to move his admission pro hac vice for the purposes of this case.

THE COURT: Mr. Misegades, it gives the Court great pleasure to admit you pro hac vice. Where does Mr. Misegades practice?

MR. KALLIS: He is a resident of Bethesda, Maryland, and he is engaged in the patent practice here in the District of Columbia.

THE COURT: But he is not a member of this bar?

MR. KALLIS: Not a member of this bar.

THE COURT: I see. But his office is in the District [4] of Columbia?

MR. KALLIS: Yes.

THE COURT: I see. You may proceed.

#### PLAINTIFF'S OPENING STATEMENT

MR. MISEGADES: This is a quasi-appeal from the Patent Office, trial de novo, and the subject matter is a lens for cataract patients. I have here one of the lenses that is being commercially made. I am not suggesting that it be used in evidence, but I thought a three dimensional example of what the subject matter was would be more fun for you to handle than merely looking at a drawing.

THE COURT: I think you are quite right.

MR. MISEGADES: I believe you have a copy of the application before you.

THE COURT: Yes.

MR. MISEGADES: I could not quite guess how familiar Your Honor might be with the problems of cataract patients, so I propose to --

THE COURT: You have a right to assume that I am not familiar at all. Fortunately, I don't have to be familiar.

MR. MISEGADES: My suggestion is that you interrupt me at any time during this statement.

[5] THE COURT: I don't hesitate to interrupt counsel. You needn't grant that permission, I do it anyway.

MR. MISEGADES: If I go too fast for you, stop me.

THE COURT: I will stop you, don't worry about that.

MR. MISEGADES: And if it is obvious, stop me too. In the normal human eye there is a lens which will take care of the individual who does not need glasses and this lens is somewhat flexible and the muscles, particularly in the case of a younger individual, are capable of changing the shape of this lens in order to facilitate the individual focusing his eye on either a near or a far object.

Some people have deficient eyesight and so we supplement the human eye with spectacles. If a person has cataracts, which amounts to the situation of the lens of the eye becoming opaque, those can be removed surgically and then the eye has no lens and it then becomes necessary for the patient to have all of his lens function provided by spectacles. The effect of this is that the cataract patient is normally extremely short-sighted, and to correct this in the practice prior to Mr. Freeman's invention it was necessary to use a lens that was very thick and heavily curved, and the effect of this was that his vision was limited to looking straight forward. As this was true, he could [6] not see without turning his eyes and usually his head, as well, to see from one side to the other. This condition is called tunnel or gun barrel vision because the individual literally sees almost what he would see through a tunnel.

Mr. Freeman's invention is calculated to enable the individual who has cataract lenses to see a wider vision and this is the significant advance that he has contributed. The manner in which this is carried out will be brought out in the testimony, but essentially this sets forth the broad vision of what the idea constitutes.

The Patent Office has brought a motion to add another defense and I had wondered whether you wanted to hear the Patent Office on that subject before —

THE COURT: I will entertain that motion before we start the trial, but so long as you are making your opening statement, I suggest you complete it.

MR. MISEGADES: Well, I have in substance given you the background of the invention.

THE COURT: But you haven't told me the main thing, you haven't told me what the invention consists of. You have told me the object of the invention.

In other words, I always want to know what is the inventive step or the carrying element of the invention.

[7] MR. MISEGADES: I can explain that in this manner. The conventional type of grinding that is employed on lenses commonly resorts to what is known as a spherical form of grinding. That is to say, the surface of the lens constitutes a minute fraction of the surface of a sphere. If the eye requires only a small amount of correction, then the sphere is relatively very large in diameter, approximating flatness.

THE COURT: Are you referring to cataract lenses or all lenses?

MR. MISEGADES: Any lens.

THE COURT: Any lens?

MR. MISEGADES: That is true. That is to say, if the eye requires very little correction, you have this very slightly curved section. The sphere which is used for a minimum amount of correction is approximately two yards in diameter. This is what we would refer to as one diopter, which is the standard of measurement in the optical industry.

THE COURT: In other words, one diopter is a sphere —

MR. MISEGADES: Is the equivalent of the curve of a sphere which is two meters in diameter.

THE COURT: I see.

MR. MISEGADES: If you move to two diopeters, the sphere is reduced to half the size, namely, one meter. And [8] the diopeters progress on a geometric basis of reducing the size of the sphere.

In the case of a cataract patient the correction will be of the order of 16 diopters, which will take you down to a very small sphere, with a rather acute curve. Now it is characteristic of all of the spherical surfaces, of course, that the sphere forms a complete circle.

Mr. Freeman's contribution consisted in using a parabolic curve —

THE COURT: You mean instead of spherical?

MR. MISEGADES: In contradistinction to a spherical curve. The parabola is the course traveled, for example, by the comet approaching the sun and returning away from it, and the characteristic of the parabola is that it is not a closed but an open curve, the ends of it never meet, just as the comet comes from outer space and returns to it.

The effect of the parabolic curve is to somewhat flatten out the edges of the lens. As you look at that example before you, you can scarcely tell the difference whether that is a portion of the surface of the sphere or not because you are dealing with only a very small area.

THE COURT: It would take a technician to do that.

MR. MISEGADES: Yes. Perhaps you can tell it in [9] some secondary way, but a casual inspection would lead you to believe that it isn't a bit different. Now in a few words that is precisely —

THE COURT: How does the use of the parabolic curve in contradistinction to a spherical curve achieve the result that you speak of?

MR. MISEGADES: By the fact that the central depth of the curve is greater than at the side. The eye as it sees forward sees in a magnified relationship just what is ideal, but as the eye travels to the side there is a greater distance that intervenes between the front of the eye itself and the back of the spectacle lens.

By flattening the curve out a little bit the individual is able to see over a broader arc in front of him than would be true if he used a lens ground on the spherical principle.

THE COURT: Very well.

\* \* \*

[11] THE COURT: Have you got the usual pamphlet that you submit in these cases?

MR. ROEMING: Yes.

THE COURT: May I have it? Thank you very much.

[12] MR. ROEMING: May I submit that as Defendant's Exhibit 1.

THE COURT: Yes.

(Patent Office Folder marked Defendant's Exhibit No. 1 and received in evidence.)

\* \* \*

[19] DEFENDANT'S OPENING STATEMENT

MR. ROEMING: In view of the granting of the motion to amend, I will merely then state that this is, as far as the prior art is concerned, a conventional case presenting to the Court the question whether or not the Patent Office clearly erred in holding the claims before the Court unpatentable over the prior art for obviousness to one skilled in the art.

As to the matter of res judicata, the claims differ in very small matters, and we will in the closing argument demonstrate that actually by all the authorities this is a clear case of res judicata.

THE COURT: I would rather decide the case on the merits rather than res judicata so long as the entire case is before me. I don't mean to belittle the defense of res judicata, but I would prefer to go to the merits also.

MR. ROEMING: That is the only opening statement I will make at this time.

THE COURT: But what is your opening statement on [20] the merits?

MR. ROEMING: The position of the Patent Office is this: First of all, in his brief before the Board of Appeals in this case the plaintiff has admitted that it is old in the art. We don't have to resort to references. There is the admission that it is old to make plastic bifocal lenses with conventional spherical curvature. This was old before his



invention. The only difference, then, over the admission itself is the use of the paraboloidal surface.

THE COURT: I understood from Mr. Misegades that was the crux of the invention, the substitution of a parabolic curve for a spherical curve.

MR. ROEMING: We have references before the Court, and were before the Patent Office from the Examiner, that paraboloidal curvature in lenses is old, and the Examiner and the Board of Appeals took the position that to substitute a paraboloidal surface for a spherical surface in this type of lens, this being the only difference over the prior art, would be obvious to anyone skilled in the art. The case is as simple as that.

THE COURT: Thank you. Now you may proceed.

[21] MR. MISEGADES: I would like to call as my first witness the inventor, Mr. Walter Freeman.

WALTER M. FREEMAN

Plaintiff, called as a witness, having been duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. MISEGADES:

Q. Will you give us your name, address, and occupation? A. My name is Walter M. Freeman. I live at 2501 Liberty Street, Allentown, Pennsylvania. I am a wholesale and retail optician.

Q. Will you give us an explanation of what this occupation involves? A. Retail optician involves the fitting of glasses and frames on patients that come in with a doctor's prescription, such as an ophthalmologist or an eye doctor, which may include an optometrist.

The wholesale part is the grinding and fitting of lenses into frames and selling on a wholesale basis to an outside eye doctor, such as optometrist or ophthalmologist.

Q. Does your occupation help you to be familiar with the commercial products that are offered for optical use? A. Yes. As a wholesaler we have contacts with all the [22] major manufacturers. We are on their lists, as they are so called. We buy from every major manufacturer in the United States.

THE COURT: What is the name under which you conduct business?

THE WITNESS: I conduct business as Linden Optical Company.

THE COURT: Is that a corporation?

THE WITNESS: It is now a corporation. It was not at the time the patent was filed.

BY MR. MISEGADES:

Q. How long have you pursued your occupation? A. I have been in the optical business for 35 years.

Q. And you are the plaintiff? A. I am the plaintiff, yes.

Q. Have you made other inventions besides this one? A. Yes, I have. I have invented a lock washer for the lens screw on optical frames. I sold this patent to Shuron Optical Company. I have also received a patent on the grinding and polishing and the method of plastic lenses, a hard plastic known as CR-39.

Q. Did you sell that invention? [23] A. I sold that invention also, yes.

Q. I have just handed you a copy of claim 4 of the application on appeal and I should like you go over that claim one phrase at a time, in order that the Court may understand the nature of the invention. At the end of the first line we find the words ophthalmic lens. What is an ophthalmic lens? A. It is a lens used on patients to correct their deficiencies in vision. It is made into the form of eye glasses.

Q. That is to say, an ophthalmic lens, as distinguished from a camera lens, for example, or a telescope lens? A. Yes. The difference is that the ophthalmic lens is used on patients only.

Q. Going back a word, we have the word aphakic. What is the meaning of that word? A. Aphakic is a cataract lens. After the cata-

ract has been removed from the eye the lens that is used to correct that is called an aphakic lens.

Q. What is the meaning of the word bifocal? A. Bifocal means double focal or two focals, a combination of distance and reading focals, reading area and [24] distance area.

Q. What is the meaning of the word lenticular? A Lenticular is a lens that has a central portion that has the prescription ground into it. It is essential for vision. It has an outer portion, which is not essential for vision, but is used as a means or a vehicle in grinding the lens and inserting it into an ophthalmic frame.

Q. Proceeding to line 2, there is the phrase, of uniform refractive index. What is the meaning of refractive index? A. Refractive index is the bending power, say, of the lens. It is best illustrated by putting a pencil in a glass of water. The refractive index power of the water gives you the illusion that the pencil is bent.

Q. And the word uniform is used in its usual meaning? A. Yes, that the index is the same throughout the lens.

Q. What is the meaning of the next phrase, cast hard plastic? A. There is an optical plastic material that is called CR-39. It is in contrast to other plastics. It is much harder. It has good clarity of vision and is the least — has the most scratch resistance of any other plastics used for optical purposes.

[25] THE COURT: Mr. Misegades, let me ask you this. Are these lenses made not of glass but of plastic?

MR. MISEGADES: Yes, it is made of plastic.

THE COURT: It looks like glass. That is the reason I asked the question.

MR. MISEGADES: Please interrupt the witness if I have not extracted all of the meaning as I go along.

THE COURT: I just wanted to know this one point. For instance, most glasses, at least glasses that I have worn, are made of glass, and my curiosity was aroused that this was made of plastic.

MR. MISEGADES: This plastic was specially developed for optical use. It is tolerably hard, at least compared to the soft plastic envelope in which it was contained.

THE COURT: Is it equally transparent with glass?

MR. MISEGADES: Mr. Freeman?

THE WITNESS: It has better transmission of light than glass.

THE COURT: Is that so? I see.

MR. MISEGADES: And it also has the virtue of being substantially lesser in weight.

THE COURT: And also it is not as breakable, I suppose.

[26] MR. MISEGADES: Not at all.

BY MR. MISEGADES:

Q. We next have a rather long phrase. We refer to a distant-vision portion of the lens. What is that? A. It's the upper part of the lens that a person looks through for his distance vision.

Q. This is implicit in a bifocal lens? A. That is in a bifocal lens, yes; bifocal being at the bottom for close work only, close use.

Q. And we refer to the outer face. Which face of the lens is that? A. That would be the outside, the front curvature of the lens.

Q. Most remote from the eye? A. The furthest away from the eye, yes.

Q. Now it is stated that this face is a paraboloidal surface. A. That is correct.

Q. Enlighten us on that. A. Well, it has a variance of curvature from the center of the distance portion of your lens to the edge, having paraboloidal curvature on the distance portion. It varies in the radii from the center of the lens to the outer edge.

[27] Q. Would I be correct in transposing that statement to say that the center part of the lens is most curved, while the fringes of it are less curved? A. That is correct, yes.

Q. And you say this is a uniform change from the center to the outside? A. That is correct, yes.

Q. We proceed to the next phrase, which states that the face that we have been talking about is symmetrical about a central vertical axis at right angles to the optical axis. What is the optical axis of a lens?

A. That would be the horizontal axis. The vertical axis will be at right angles, vertically up and down. The optical axis would be horizontal or laterally to the outer edges of your lens.

Q. That is to say, the optical axis is what exists as you look straight out? A. That is correct, yes.

Q. And the vertical axis that is at right angles to it is up and down? A. Up and down, that is correct.

Q. Now what is the significance of the word symmetrical here? [28] A. That the lens is symmetrical on both sides, of the right to the left side of your lens, at right angles to your vertical axis.

Q. Now we have the final phrase —

THE COURT: I would like to have that answer read.

(The Reporter read the last answer.)

BY MR. MISEGADES:

Q. We come to the final phrase, the inner surface of which — that is to say, the lens, I believe — is unfinished ready for prescription grinding. A. The inner surface of your lens closest to the eye is less finished, that is, there is no prescription has been ground on it. It is left thick enough in order that the finished prescription grinding can be made on the inside surface.

Q. Would it be proper to say, then, that the purpose of this type of lens is to enable the wholesale oculist to take this lens or lens blank and grind the inside of it to complete a partially complete lens so that it can be worn by the patient? A. That is correct.

THE COURT: That is done by the retail optician, is it?

THE WITNESS: It is done by a wholesale optician, an [29] optician with a grinding laboratory, with a technical laboratory that does what we call surface grinding and edge grinding.



THE COURT: When a patient comes into an optician's shop with a prescription it isn't the optician who makes the last grinding? Does he send to the wholesaler for that?

THE WITNESS: He usually does. It is possible, though, for a retail optician to do his own grinding. It is not the usual procedure. Most of the retail opticians only fit the glasses, the frames, initially, when the patient comes in with a prescription, and they take measurements and send the prescriptions with the frame measurements to a wholesale shop, although there are some retailers that do their own grinding, but they are in the minority.

MR. MISEGADES: We have completed the reading of claim 4, which I am taking as typical of the plaintiff's claims. Does Your Honor feel that the explanation was suitable, or would you like to ask additional questions?

THE COURT: I have no questions to ask at this time.

BY MR. MISEGADES:

Q. Can you recall whether you arrived at your invention by extended reflection or was it an instantaneous sort of thing such as has been called a flash of genius? A. It was a flash. I wouldn't say I am a genius, though. [30] Do you want me to describe how —

Q. Yes, I would like to know how it came that you invented this? A. It's been a known fact, or had been to me and every other optician for many years, that a cataract patient was very troublesome because of the distortions, aberrations, that cataract patients have always had, especially with their first glasses.

So, I was in an ophthalmologist's office, one who is very well versed in optics, having been a professor, and we were discussing a magnifier, a highly strong magnifier that had a principle to give less distortion. I immediately thought of that same principle, could that same principle and that magnifier be incorporated in a cataract lens to increase the peripheral vision and lessen distortions that cataract patients have had.

The doctor immediately said yes, go ahead and make one.

THE COURT: When was that?

THE WITNESS: That was in the late summer or early fall of 1956.

BY MR. MISEGADES:

Q. When it was suggested that you proceed to make one, [31] how did you go about doing this? A. Well, we sought a firm that would grind aspherical molds for us and parabolic molds. We knew of one in Bethlehem, Pennsylvania, it is adjacent to Allentown.

Q. Let me interrupt you here by asking why you decided to have a mold made, from which I presume you intended to cast lenses, instead of grinding a lens forthwith. A. It's very difficult to grind a parabolic curve in either plastic or glass and it is very expensive. But with the advent of plastic lenses, if we would have a mold or a cast made, many lenses could be ground with an aspherical curvature at much less expense, and the fact that a plastic lens was half the weight and also more clear than glass.

So it would be a method of making a less expensive cataract or aphakic lens much cheaper and have a better lens and more comfortable lens.

Q. Were you successful in your first effort to obtain such a lens?

A. We were not successful. Mr. Victor had been working on this aspherical curvature mold for us and he became ill and died before he could produce one for us.

Q. You mentioned immediately before this that grinding a parabolic curve was more difficult than grinding a spherical [32] curve. Is your shop equipped to grind parabolic curves? A. No, not at all. We attempted to grind some, but without any success.

Q. Would you say that other individuals and companies such as yours are so equipped? A. No, none at all that I know of.

Q. Are the majority of the eyeglasses used in the United States ground in shops like yours? A. Yes, sir.

Q. Did you pay Mr. Victor for the work, or his firm, for the work that he did do? A. That is correct.

MR. MISEGADES: I have here a check canceled —

MR. ROEMING: Your Honor, may I raise an objection?

THE COURT: Let him finish.

MR. ROEMING: I have a very important objection, Your Honor.

THE COURT: But I want him to finish his offer.

MR. MISEGADES: I would like to offer this check in evidence.

THE COURT: Now what is your objection?

MR. ROEMING: I ask the question, is this check to establish a date?

[33] MR. MISEGADES: The date has already been established by—

THE COURT: What is your objection?

MR. ROEMING: Our objection is this: on the authority of your own decision in the case of Schering v. Marzall, Your Honor excluded evidence which is taken instead of a Rule 131 affidavit in the Patent Office which was not timely presented, with plenty of opportunity to present it, to overcome the date of a reference. Now this testimony that has begun to be taken here appears to me to be taken for the purpose of overcoming this reference, and on the authority —

THE COURT: Which reference?

MR. ROEMING: The Davis publication.

THE COURT: What is the date of that publication?

MR. ROEMING: The date of that publication is December 1956.

THE COURT: Mr. Misegades, what is the purpose of this exhibit?

MR. MISEGADES: The purpose of this exhibit is to confirm Mr. Freeman's statement that he made the invention in the summer or fall of 1956.

THE COURT: Is it for the purpose of overcoming a [34] reference?

MR. MISEGADES: That will be one of the purposes of it.

THE COURT: What is the case that you refer to?

MR. ROEMING: Schering Corp. v. Marzall, a decision of Your Honor.

THE COURT: You are referring to Schering Corp. v. Marzall, 101 F. Supp. 571, is that it?

MR. ROEMING: Yes, sir.

THE COURT: What do you say as to Mr. Roeming's objection?

MR. MISEGADES: I first of all would point out that the check is offered for more than this single purpose. Beyond that, in the Schering case there was extreme dilatoriness on the part of the plaintiff in offering the evidence. They waited as the decision points out, for a period of eight years and not until the case had reached the Board of Appeals.

THE COURT: Was this presented to the Patent Office? I mean in this case was this evidence that you are now tendering presented to the Patent Office?

MR. MISEGADES: Equivalent evidence was, an affidavit conforming Mr. Freeman's statement.

[35] THE COURT: I am going to overrule the objection and admit this.

(Canceled check Oct. 8, 1956 from Linden Optical Co. to J. N. Victor, \$200, marked plaintiff's Exhibit No. 1 and received in evidence.)

THE COURT: Gentlemen, we will take our usual mid-morning recess at this time.

(Recess.)

MR. MISEGADES: At the time we took our recess I was on the point of offering that check into evidence.

THE COURT: Yes. I overruled the objection and admitted it.

MR. MISEGADES: I move its admission.

THE COURT: Yes, I am admitting it. Let it be admitted.

BY MR. MISEGADES:

Q. You stated that the Victor Laboratory was unable to produce the mold that you wanted made? A. That is correct.

Q. What did you do next to obtain a mold? A. An assistant of mine went to the Laboratory Optical Company in Dunellen, New Jersey, to have

a mold made according to our specifications.

[36] THE COURT: What is the name of the company?

THE WITNESS: Laboratory Optical Company at Dunellen, New Jersey. It is close to Plainfield.

BY MR. MISEDGADES:

Q. Did they make such a mold? A. No, they did not.

Q. Did it take some time for you to discover that they were not going to make one? A. Yes.

Q. And did you continue your endeavor to find other places where you could get such molds? A. Yes, we did.

Q. Why did it seem to be so difficult to get a mold of this kind?

A. Well, we were unable to grind an aspherical or parabolic curvature, so evidently it is difficult for the other optical companies or laboratories. They were not in ophthalmic optics, they were in physical optics, general optics. We thought they would be better equipped to make a mold of that type for us, but evidently they were either too busy or it was too difficult to make.

Q. In other words, it is proper to say that at least at the time you were working on your invention, that it was an [37] uncommon thing to grind a curve of this character? A. That is correct, with the proper type mold that we wanted.

Q. You did eventually get such molds made? A. Yes, we did.

Q. And who made those for you? A. Perkin Elmer Company in Norwalk, Connecticut.

THE COURT: When did they make it?

THE WITNESS: They made a mold finally in May of 1958.

BY MR. MISEGADES:

Q. And were lenses made by casting in these molds? A. That is correct. We had one initial trial mold made for an individual patient's use for trial.

Q. When you received the blanks that were cast in this initial mold were eyeglasses made from them? A. That is correct, yes.

Q. And the eyeglasses were fitted to a patient? A. That is correct.

Q. Was the patient satisfied with the lens? A. Extremely.

Q. And was the prescribing physician satisfied that the lens acted as it was intended to? [38] A. Very much so.

Q. About when did you take this matter up with a patent attorney?

A. I had taken up the matter with a patent attorney in 1956, previous to the Christmas — around the Christmas season of 1956.

Q. Who was that patent attorney? A. His name was Paul J. Kopp.

Q. Why did you choose his services? A. He was a friend of mine from high school days on. His home is in Allentown and he would come up holidays and many other weekends to visit his family. Naturally, he would visit me as an oldtime friend.

Q. You said that he came up. Where did he come from? A. He came from Washington, D.C.

Q. Did he prepare a patent application? A. Yes, he did.

Q. Was this the application that was filed on July 18, 1957? A. That is correct.

Q. Was he named as the attorney to represent you? A. Not at that time because he entered the service of the Government in the Defense Department.

[39] THE COURT: What was that date, please?

MR. MISEGADES: July 18, 1957.

BY MR. MISEGADES:

Q. I take it that he was not employed by the Defense Department at the time he prepared the application? A. That is correct, yes.

Q. Were you aware at the time of your first production of lenses according to your invention, of any fully equivalent commercial product? A. At the time of conception?

Q. Well, at the time that you actually made your first lens. A. Actually made the first lens, which was in October 1958, you mean with the trial and the patient?



Q. Either that or any other time. A. I have known of none that was made, no.

Q. Have you continued to make these lenses from the time you first offered them? A. Not the same identical lens.

Q. Why did you stop? A. I sold the patent application to the Univis Lens Company, formerly of Dayton at that time, now Fort Lauderdale, Florida.

Q. Do you know [40] whether any equivalent lens to your own became available subsequent to those which you made and fitted to patients? A. Yes, I do.

Q. When was the first one to come to your attention? A. After I had made my lens, I saw an advertisement in the optical journal by American Optical for an aspheric cataract lens in the bifocal. It was an October issue, but the date of acceptance of orders was for November 15th.

Q. Of what year? A. Of 1958.

Q. These were lenses or lens blanks? A. These were lenses, not lens blanks.

Q. Could you buy the lens blank? A. Not at that time, no.

Q. Did that mean that the American Optical Company at its factory produced the finished lens? A. That is correct, yes.

Q. Was the lens blank available at a later date? A. At a later date, yes.

Q. And that was also the product of the American Optical Company? A. That is correct, yes.

[41] Q. And about when did that take place? A. To my best knowledge, approximately 1963.

MR. MISEGADES: I have Exhibit 2. Counsel has a copy of this exhibit.

(American Optical Co. advertising brochure marked Plaintiff's Exhibit No. 2 for identification.)

BY MR. MISEGADES:

Q. I show you here an advertising circular of the American Optical Company and ask you whether this was the advertisement — whether this advertisement describes the American Optical lens that you said resembled your own product? A. Yes, definitely.

Q. And I invite your attention to the two pictures that are shown on the front cover of this advertisement. What do they show? A. That the periphery of the aspherical cataract lens is much greater, is much clearer. It has greater wide angle and less distortion at the outside meridians.

Q. Do you consider that pair of photographs a proper comparison of a lens of this type with the prior type of lens that was available? A. Do I consider it —

Q. Do those two photographs satisfactorily indicate [42] that there is a difference? A. Yes, definitely.

MR. MISEGADES: I offer this circular in evidence.

THE COURT: What is the relevancy of it?

MR. MISEGADES: The relevancy of this exhibit is to show that following the production of Mr. Freeman's lens there also became available commercially other lenses made upon the same technique, which like his lens satisfied the requirements of the cataract patient.

THE COURT: In other words, is it for the purpose of proving commercial success of the invention?

MR. MISEGADES: That is offered for that purpose especially.

THE COURT: Have you seen this?

MR. ROEMING: Yes, Your Honor. I will be glad to refer to that exhibit on behalf of the Office's case.

THE COURT: There is no objection?

MR. ROEMING: No objection.

THE COURT: Let it be admitted.

(Plaintiff's Exhibit No. 2 for identification was received in evidence.)

BY MR. MISEGADES:

Q. I now call your attention to the Courmettes patent. [43] This is one of the two basic patents relied upon by the Patent Office in the rejection of the claims before the Court. Will you explain the operation of this Courmettes patent to the Court? A. It is a biplanar lens. In other words, it has a different angle for the reading portion, so-called reading portion. It is a spherical lens, either cemented or fused onto a back plate. The lens having a continuous outside curvature, indicates that the reading portion, so-called reading portion is the same as the distance. There is a line differentiating between the upper and the lower segments, but according to the diagrams, the drawings, both are the same cosine and both are spherical lenses.

Q. That is to say, the portion shown in figure 2 is the functional part of the lens and that which is shown in figure 3 serves as a support? A. Right.

Q. They are combined as shown in figures 4 and 5. You stated that the upper and lower portions of the lens were ground as a continuous curve. What is your authority for that? A. The face curve, outside face curve is continuous as a plain sphere. The inside curvatures are flat, one being [44] as flat as the other, which means there is no bifocal distortion or increased magnification in the lower segment, which would serve the purpose of the bifocal.

Q. Is it ordinarily the function of the reading portion of a bifocal lens to give greater magnification than the distant portion? A. Definitely.

Q. Can you recall in your experience any case where this was not true in any of the bifocal lenses you have made? A. I know of none.

Q. That is in your 35 years of experience? A. That is right.

Q. And you believe that it is normally the case that a considerably greater magnification is required? A. That is correct, yes.

Q. Let me recall once more. You said this was ground with a spherical correction rather than a parabola? A. Correct.

Q. Does this type of construction overcome the problem of tunnel vision in a cataract patient? A. Not at all, not any more so.

Q. The first auxiliary reference is that of Tillyer, which is numbered in the Patent Office collection. I have [45] shown you a copy of the Tillyer patent. Will you explain what his objective is and how he accomplishes it with his construction? A. Tillyer's patent concerns light rays entering the aperture of the eye with a narrow pupil or aperture of the eye, which permits only a straight line such as line 8, ray of light such as 8 would focus on one point on the retina of the eye, such as 7. But the fact that the aperture of the eye is wider, say 7 millimeters, rays of light coming in from other angles other than the direct center would be focused at different sections of the retina, such as 10 and 11.

Q. What is the origin of those rays at the lens? A. Well, the rays—

Q. That is to say, the spectacle lens. A. Well, it can come from a wider area.

Q. Such as the space from the two numerals 9 to 9? A. Yes, that is correct, 9 to 9. They would focus on 10 and 11 in the retina, which would be, instead of being a single point, would cover a broad area, which would cause distortion.

Q. And what does Dr. Tillyer suggest should be done in that event? A. A different forming of the curvatures of the [46] ophthalmic lens that is used, but he doesn't speak of any set formula or methods of doing such.

Q. Then do I understand you to say that he has confronted the world with a problem without telling what the solution is? A. That is correct, yes.

Q. Does he not say on page 2 of the text that he may grind the lens to the curves calculated and deform the surfaces locally to correct the aperture aberrations, just as a telescope lens is corrected by grinding away minutely until the lens is correct in all sections? A. He says that, but I have never known it to be done. He didn't say how to do it.

Q. What is he telling you to do here? A. Nothing. He doesn't know how to correct it or what other type of curvature to make.

Q. When he says he grinds this surface locally, does that mean he just whittles it out, so to speak? A. I would think so, until he hits the right curvature or deform the surface until he hits the right combination.

Q. Would you be able to use that suggestion to make a lens? A. No, I wouldn't know how.

[47] Q. Does the patent suggest satisfying the needs of a cataract patient in both far and near vision? A. Not any more than it does any other type of lens, no.

THE COURT: Does it suggest or disclose a parabolic curve?

THE WITNESS: He mentions that it could be elliptical or parabolic, yes.

THE COURT: Does he mention that?

THE WITNESS: Yes, on the second page, line 34. He mentions the variable curve.

BY MR. MISEGADES:

Q. He also uses the expression "etc." following the parabolic curve? A. Yes.

Q. And he does not tell you under what circumstances to use the parabolic curve? A. No, or any formula for it.

Q. Does he tell you how to? A. No.

Q. Does the Tillyer patent correct for tunnel vision? A. No.

Q. Does he suggest parabolic grinding for any purpose [48] other than to correct for the aperture of the eye? A. No.

THE COURT: Just where is that in the Tillyer patent, Mr. Mises-gades?

MR. MISEGADES: Which is this?

THE COURT: The reference to the parabolic curve.

MR. MISEGADES: The word parabolic occurs at line 34 on page 2.

THE COURT: Yes.

MR. MISEGADES: The purpose of my examination on that point was that the parabolic curve was used by Dr. Tillyer for a different purpose.

THE COURT: Yes.

THE WITNESS: That is correct.

THE COURT: For what purpose?

THE WITNESS: Other than to correct tunnel vision on a cataract lens.

THE COURT: Well, for what purpose was it used?

THE WITNESS: Correct the difference or the formation of light rays coming through a lens on different portions of the retina due to the wide aperture of the pupil.

This diagram shows, in the retina you have different points, 7, for a central point, but for a wide range of [49] rays coming through the lens and through the pupil they form an object at 10 and 11 on the retina.

It's a retinal image that he is determining, not an aspherical or tunnel vision problem.

THE COURT: Very well.

BY MR. MISEGADES:

Q. This is a convenient point to discuss the manner in which lenses are ground. What are the common curves upon which lenses are ground?

A. Cylindrical, spherical.

Q. We have been talking off and on about a spherical lens. What is that? A. It has a continuous circle.

Q. That is to say, the surface of the grinding is equivalent to a portion of the sphere? A. That is correct, yes.

Q. And what is a cylindrical grinding? A. A cylindrical grinding at one meridian would be a continuous circle; a circle would meet continuously around at one meridian.

Q. Is it true that both spherical grinding and cylindrical grinding employ closed curves, that is to say, [50] curves which result from the rotation of something? A. That is correct, yes.



Q. Was the parabolic curve commonly used in grinding eyeglasses at the time of your invention? A. No, not at all.

Q. What is the reason that this is true? A. It is very difficult and expensive to grind and there was no apparent need for a parabolic or aspherical curvature previously.

Q. Is the parabola a closed curve? A. No, it is not. It does not meet, it extends.

Q. That is to say, the ends of it do not meet? A. The ends of it do not meet, yes.

Q. Do you know whether the method of Tillyer has gone into commercial use? A. You mean Tillyer's patent here?

Q. Yes. A. No.

Q. Have you ever seen a lens that you knew was made according to his teaching? A. No.

\* \* \*

[54] Q. We progress now to the article written by J. K. Davis and Gilbert Clotar for publication in the American [55] Journal of Optometry and Archives of American Academy of Optometry. This article indicates that it was intended to be published in the December 1956 issue. Do you know whether it was so published? A. Yes.

Q. Have you seen the complete Journal containing the article? A. Yes, I have.

Q. And that article, or that Journal issue was the December 1956 issue? A. That is correct.

Q. Do you know the business relationship of the two authors? A. Yes.

Q. What is it? A. They are in the Research Department of American Optical Company.

Q. What does the article say about the then existing situation in the cataract lens art? A. They said that it needed a considerable improvement.

Q. They recognized, apparently, then, that as of the date of their

writing the article cataract patients were not being properly attended to? [56] A. That is correct, yes.

Q. I direct your attention to pages 646 and 647. As to page 646, will you notice the paragraph immediately below the chart, and on page 647 will you notice figure 3 at the top of the page and particularly the element indicated at the letter C. A. Yes.

Q. What do the authors say on page 646 about the lens on 647? A. Well, they said that an aspheric lens similar to their present Style E lenticular, which is glass and nonaspheric, that an aspheric lens, if it was possible, would make a better lens, a light-weight lens, and it would be better corrected for power and astigmatism, but it said it would not correct for color. It says this type would be. They do not say that they have made it or are making it.

Q. Is the lens a bifocal lens? A. According to the drawing on page 647 it is not a bifocal. They have a question mark behind bifocal. That is drawing C in figure 3.

Q. You mentioned this lens is similar to their type E. A. Yes.

Q. You understand the words type E or style E to [57] mean a reference to one of American Optical Company's lenses? A. That is correct, yes.

Q. You are familiar with that lens? A. Yes, I am.

Q. And you said it was glass? A. It was glass, yes.

Q. And is it bifocal? A. Yes, it is.

Q. How is the bifocal function accomplished? A. By fusing higher index glass into the distance portion in the lenticular E in glass; and it is a spherical curvature, not aspherical.

Q. Would you say that it was generally similar to the construction shown in lens B but without the portion which is shown to the righthand of the figure? A. Yes, it would be lenticular, similar to that.

Q. And this portion that looks like a check mark in there is something that has been inserted? A. Yes.

Q. You would say, then, that this lens is not one which has uniform refractive index? A. Correct, yes.

Q. That bifocal feature, I think you said in your [58] earlier testimony, is important to a cataract patient? A. Very much so. The lens is removed, they have no accommodation.

Q. Have you noted in this article that the authors recommend a corrected curve achromatic lens? A. Yes, they do.

Q. What do those words mean? A. They fuse a high index glass, such as flint, with the crown, with the idea of making it a doublet or achromatic lens to reduce the color that is inherent in a cataract lens.

Q. Do you understand that such a construction is shown over the letter D on page 647? A. Yes.

Q. A doublet lens, as I understand, is made up of two pieces of glass? A. Yes.

Q. And is it as cheap or is it more expensive than the type of construction you use? A. More expensive.

Q. Are you aware whether the American Optical Company offers such a corrected curve achromatic lens for general sale to cataract patients after it's been ground? A. I have never seen one.

[59] Q. You are in possession of what you believe to be the current catalogs of the American Optical Company? A. Yes.

Q. And it is not offered, to your knowledge? A. To my knowledge, it is not offered.

Q. What kind of a lens is most widely sold by the American Optical Company for cataract use? A. I would say their aspheric plastic cataract lens. By far it is sold more. More aspheric cataract lenticular plastic lenses are sold.

THE COURT: How much longer is your testimony going to take? I am not trying to hurry you.

\* \* \*

THE COURT: Well, I have another urgent matter to interject right after the luncheon recess and I will excuse [60] you until half-past two.

MR. MISEGADES: Very well. Thank you.

(At 12:30 p.m. trial stood in recess, to reconvene at 2:30 p.m.)

AFTERNOON SESSION

THE COURT: You may resume, gentlemen.

MR. MISEGADES: The Clerk has called my attention to my oversight in neglecting to offer in evidence the certified file copy of the application.

THE COURT: Let it be admitted.

MR. MISEGADES: And I am offering that as Exhibit 3.

(Certified copy of File Wrapper marked Plaintiff's Exhibit No. 3 and received in evidence.)

BY MR. MISEGADES:

Q. We were just finishing up the consideration of the Davis and Clotar literature reference and it was my intention as we closed to ask you, Mr. Freeman, whether the American Optical circular which I had referred to as Exhibit 2 was the type of lens that is currently being most widely offered for [61] the purpose of the correction of cataract problems. Is that your understanding? A. That is my understanding.

Q. Is it your understanding also that the lens that is being offered answers the terms of claim 4 which is here for consideration? A. Yes.

Q. You understand that the front surface of the lens is an aspheric parabolic shape? A. That is correct.

Q. You have examined such lenses and know from your own knowledge that this is true?

THE COURT: He said yes, so that is satisfactory.

BY MR. MISEGADES:

Q. In the circular, if you recall, there are two pictures on the front page, and one is fuzzy on the sides and one is relatively more clear? A. Yes.

Q. And the one that is more clear you understand to be this parabolic curve on the front surface? A. Yes, sir.

Q. It is also a plastic lens, is it not? A. It is also a plastic, yes.

\* \* \*

[64] Q. Now we come to the various patents taken together. The Patent Office has rejected the claims of your application on the ground that it would be obvious to one skilled in the art to modify the Courmettes lens with a parabolic correction taken from the Tillyer patent. In your experience do you believe this to be true?

THE COURT: Taken from the Tillyer patent, did you say?

MR. MISEGADES: Yes.

BY MR. MISEGADES:

Q. Do you believe on the basis of your experience that this would be true? A. No.

MR. ROEMING: May I have the question repeated?

THE COURT: Yes, you may read the question.

(The Report read the last question.)

THE COURT: No read the preceding question.

(The Reporter read the next-to-last question.)

THE COURT: His answer is no.

MR. ROEMING: Thank you.

BY MR. MISEGADES:

Q. Why do you say this? [65] A. The Tillyer patent does not correct the marginal distortions in periphery that you would get in a Courmettes, in a cataract lens.

\* \* \*

[70] MR. ROEMING: As a matter of fact, I can simplify this case at this point by saying that after listening to the testimony and seeing a particular exhibit here, my closing argument I am going to rely on the Courmettes patent and the Tillyer patent primarily and I don't intend — at this moment I may not even cross-examine the witness.

THE COURT: I thought you would rely principally on those two. And not on the Davis article?

MR. ROEMING: I don't think the Davis article is as good a reference as the Tillyer patent, aside from the question of the attempt to overcome —

THE COURT: In other words, you are relying solely on the Courmettes and Tillyer patents?

MR. ROEMING: May I put it this way, Your Honor: [71] I am not really at liberty to abandon a reference the Board has used.

THE COURT: You are not abandoning anything officially or formally, but actually in your argument you rely on those two?

MR. ROEMING: Courmettes and Tillyer. If I can't make my case with Courmettes and Tillyer, I can't make it with anything else.

THE COURT: I see. Well, I think that simplifies your task.

MR. MISEGADES: In significant measure I believe it does. I would want to corroborate the testimony of Mr. Freeman to the effect that he completed his invention in a timely manner after having invented it before the Crandon reference.

THE COURT: Of course you have a right to make the record, but actually from what Mr. Roeming just said the Patent Office is not going to rely on the Crandon reference and I can't see that it has anything to do with this case. I will officially strike it out.

MR. MISEGADES: Thank you.

THE COURT: Because it has nothing to do with parabolic curves, and parabolic curves is the crux of the alleged [72] invention.

MR. MISEGADES: I am content to close Mr. Freeman's examination, in that case, at this point.

THE COURT: Very well. Did I understand you to say you have no cross-examination?

MR. ROEMING: I believe not. I think the Court, when I make my argument, will recall sufficiently what was specifically testified to, so that I will not cross-examine the witness. I would just like at this point to offer in evidence —

THE COURT: You may step down.



MR. ROEMING: — first of all, the folder which has been submitted as Defendant's Exhibit 1. Also, in view of the fact that the Board of Appeals in its decision specifically refers to its decision in the parent application, I also offer in evidence as Defendant's Exhibit 2 a certified copy of the parent application which includes that decision; that decision, of course, also being in the folder.

THE COURT: Let it be admitted.

(Certified copy of parent application marked Defendant's Exhibit No. 2 and received in evidence.)

[73] MR. MISEGADES: I have no further witnesses to call.

THE COURT: Both sides rest?

MR. ROEMING: Yes, sir.

THE COURT: I will be very glad to hear oral argument if you are ready to proceed, gentlemen.

#### PLAINTIFF'S CLOSING ARGUMENT

MR. MISEGADES: Since Mr. Roeming has indicated that he relies primarily upon the combination of Courmettes and Tillyer, I will limit my argument to that aspect of the anticipation. I will assume that my references to the other references as they are found in my pretrial brief will be sufficient.

THE COURT: Yes, I have read your brief very carefully and it has been very helpful. I read it last night, so it is fresh in my mind.

MR. MISEGADES: I would recall to your attention the very recent case of *Graham v. John Deere*, which is the latest decision of the Supreme Court on the question of patentability under Section 103, as distinguished from 102, which deals simply with outright anticipation by one or more references. Section 103, as you recall, deals with obviousness of invention.

THE COURT: My understanding of the Supreme Court [74] decision to which you refer is that the new legislation does not change the standard of patentability. We used to put it in the language of product of the inven-

tive skill or inventive faculty or product of mechanical skill. As I understand the Supreme Court decision to which you refer, and a couple of others, they construe the recent legislation as not changing that standard of patentability. You don't contend otherwise, do you?

MR. MISEGADES: Essentially this is true. It is merely a question of restatement.

THE COURT: That is right.

MR. MISEGADES: I would quote very briefly the observation that the question of whether ordinary skill has been involved may be affected. As the Court states:

"The obviousness or non-obviousness of the subject matter may be affected by long felt but unsolved needs."

Failure of others to accomplish the objective, and others.

THE COURT: There is no question about that. I had a case yesterday where I sustained the plaintiff as against the Commissioner where one of the points involved was the years of groping for a solution of a problem until the plaintiff [75] discovered the subject matter of the application. There is no question about that.

MR. MISEGADES: Now I would point out that Mr. Freeman has been qualified as a long experienced operator in this art and his testimony does show, along with the Davis publication, for example, that there has indeed been a long felt want for an improvement of the cataract patient's situation prior to this invention, and I would offer that as one indication of invention.

I would also point to the commercial success of the invention in the fact that Mr. Freeman has sold the invention to one of the large optical manufacturers and that presently the American Optical Company, which is the largest of the optical manufacturers, also offers for sale a substantially identical lens and does so in preference to the invention that Davis and Clotar made and described in their article.

So these two contributions, of the obviousness and commercial success, are evidences of invention in this case, wholly apart from the con-

sideration of the respective combination.

Now, I would refer also to the decision *Ex Parte Walker*, a decision of the Board of Appeals, wherein the author of the decision was Mr. Reynolds, the First Assistant [76] Commissioner, somewhat indicating an even larger measure of expertise than could be attributed even to the members of the Board of Appeals. In that recent decision he has pointed out that it is not enough to operate with two references, each of which show a part of the invention, but he has reminded us of the long-standing rule in the Patent Office that there must be in one or more of the references that are combined some suggestion or need of the desirability of combining the references. Otherwise you are simply picking the inventor's brains after he has disclosed to you what the invention is. It is necessary that it be indeed obvious by a teaching of the references.

Now we have, as I say, the professional opinion not only of Mr. Freeman here, but —

THE COURT: I might say that I was very well impressed with Mr. Freeman's sincerity and probity.

MR. MISEGADES: I am gratified. Besides his observations, I am particularly anxious to remind you of the statement in the *Davis and Clotar* reference where they reach the solution that the only opportunity, the only door open for correcting the aberrations is the use of the doublet lens which they recommend.

Now, referring to the *Courmettes* patent, you will [77] recall that Mr. Freeman pointed out that both portions of the lens, the primary lens, were ground to the same measure of correction. That is to say, the reading section had the same degree of correction. Whereas it was pointed out that it is ordinarily necessary for a cataract patient to have a greater degree of correction in the reading portion of the lens than in the distant portion of the lens. And I would point out that one of the significant limitations of the claim is that it is a bifocal lens and it is a lens intended for the aphakic patient —

THE COURT: But isn't the real question here whether it was in-

vention to substitute a parabolic curve for a spherical curve in lenses of the type that are here involved?

MR. MISEGADES: I will agree that this is the outstanding and it is the significant feature of the invention, but merely to do this by itself is not enough. That is to say, if you improve a monofocal lens by the use of a parabolic curve the cataract patient is not satisfied, even though this is the significant step forward.

What I am saying is that we have a combination claim and every element of the combination contributes to the success of the invention.

THE COURT: It may contribute to the success of [78] the invention. That is one difficulty with the way claims are generally worded. In every claim there are a lot of known elements.

MR. MISEGADES: This is true.

THE COURT: But every claim contains what has been called in some of the older cases the carrying element; that is, the step forward that the applicant has taken or the inventor has taken.

Now in this instance the step forward, as I understand it, and if I am in error I want to be corrected, but as I understand it the step forward that Mr. Freeman has taken is the use of the parabolic curve instead of the spherical curve. That is what he claims is his invention.

MR. MISEGADES: This is the step forward he has taken. But to return to the combination theory of the claim, he has taken this step forward in the light of the other limitations of the claim. What I am saying is that this may not have been a particularly desirable step forward if it were taken in respect to a different combination.

In effect, I am downgrading Mr. Freeman's contribution by saying that he made the step forward in respect to a particular background and not generally to all spectacles.

[79] THE COURT: Well, I understand that, of course.

MR. MISEGADES: Now what I am saying also is that it is not obvious to transfer the contribution of Mr. Freeman from the Tillyer patent to the Courmettes patent because, first of all, Tillyer was resorting to

aspheric grinding, it is true, or paraboloidal grinding, whichever term you choose to apply; but he made use of that technique in a different background. He found it convenient to use this type of grinding to correct an ordinary spectacle lens for the error that results from the fact that all spectacles today are ground upon the assumption that the eye aperture is a mere point; whereas in fact, as Dr. Tillyer pointed out, it has appreciable dimensions. But still the art continues to recognize that this is just one thing that you have to live with and we can't afford to correct for it.

Now this is the specific application Dr. Tillyer made in using this type of grinding. The technique itself was old, as he pointed out. It has been used in respect to telescopes and it has been used in respect to camera lenses.

Similarly, I would point out that in the case of Gowlland, he also used the aspheric technique, but he used it for still another purpose.

Following that line of reasoning, my position is [80] that Mr. Freeman has used it for still a third purpose, and it is just as much invention to apply it to the problem of the cataract lens as it was to apply it in the case of the aperture or to apply it in the case of the smooth curve in the bifocal lens.

THE COURT: Well, I suppose the government would argue that since the parabolic curve had been applied in other connections it was a known device and therefore —

MR. MISEGADES: I agree with you.

THE COURT: — it was a mechanical advance purely to apply it in this instance. What would your answer be to that?

MR. MISEGADES: The answer is that, first of all, the parabolic curve was not readily available to the industry. It had to be carried out in a very highly sophisticated optical laboratory. And yet oddly enough, in the optical laboratories of the large ophthalmic lens manufacturers, however obvious it was, it had not been applied to this purpose at any time in the previous history of the art.

Beyond that, the answer is that there are many curves available to the optical industry and whether one or another of them is used is admittedly a tool, but it is a tool that has to be applied and you have to recognize the need for it.

[81] Mr. Freeman's invention is one of those types where the invention is not in the application of an expedient, it is the recognition of the operability of the expedient and then going on to use it; and this, as I recall, although I cannot cite a convenient decision for it immediately, is sometimes referred to as the highest type of invention, to recognize the need and the solution. In other words, it is a mental operation rather than an operation with the hands.

It took Mr. Freeman nearly three years to find a competent way of getting the parabolic grinding even after he knew that this was what it took.

Now I would point out that there are significant useful limitations in the claim that distinguish this invention from the claim that was before the Board of Appeals previously. The Board of Appeals pointed out that, in substance, I had been stupid in trying to distinguish over Culver and Courmettes particularly, in calling Mr. Freeman's lens a one-piece lens, because as was pointed out in the decision, after you had fused the lens together it did become one piece but it is significant that the invention is a cast one-piece object that has a uniform refractive index throughout the lens.

Now as Mr. Freeman pointed out, cataract patients are difficult. Most of them are old and only a charitable few [82] of them are patient, and as a result of that they find it disagreeable to be given a rather complicated form of accommodation by a cemented lens, by a two-piece bifocal, even if it is fused. So one of the contributions that Mr. Freeman has used here is the cast plastic lens, which has no such difficulty. Besides that, it is much lighter in weight, as Your Honor observed. Whereas ordinarily a cataract lens is large and heavy. The patient is not annoyed by this when he uses a cast plastic lens. This is, I suggest, a



helpful contribution to the patient in making him more at home when he has to resort to this new and unfamiliar type of lens.

The lens blank which you have in your hand there is relatively much larger than the actual lens that is worn by the patient because this is to be ground down to fit the needs of the patient and his choice of frame. Now, I would like to comment briefly upon the defendant's motion to amend.

THE COURT: I have granted the motion.

MR. MISEGADES: I recognize that it has been granted. My comment is, however, that granted the defense, it is my position that the Patent Office is not entitled at this stage of the prosecution to resort to that because in the case of the appeal of Barrett in 14 —

[83] THE COURT: The Patent Office may not be, but the public is. The public is a third party to all these proceedings and I am not going to penalize the public even if the Patent Office was guilty of laches.

MR. MISEGADES: The question is whether the public is being penalized. The public is currently making use of the inventor's contribution without paying him for it.

As Judge Morris pointed out, the Patent Office is expected to raise this question in the prosecution before the Patent Office —

THE COURT: I am going to allow it to be raised, Mr. Misegades.

MR. MISEGADES: And granted the position that the defense has raised, I would point to a comparatively long line of cases, beginning for example with *In Re Edison*, which was decided by the Court of Appeals for this Circuit, and again with the most recent case of the Court of Customs and Patent Appeals in *In Re Gruskin*, the position has, with one exception, been consistently to the effect that if the claims presented in the second application are significantly more limited than the claims that were previously considered, then the defense of *res judicata* is not applicable; and this follows the application [84] of that same rule as it is employed in general law, and particularly I thought it worthy of note that the Court of Appeals in this Circuit quoted from a case of general law to the

effect that the doctrine was no differently applied in patent cases than in general law.

The sole exception to the line of cases that I have mentioned is the Mallinckroak Chemical Works, the case decided by yourself. It has been commented upon that that decision has not been followed in that it is an exception. I have dealt with this much more extensively in my brief here.

THE COURT: Yes, I have read it.

MR. MISEGADES: In substance, this is my case.

THE COURT: Mr. Roeming.

#### DEFENDANT'S CLOSING ARGUMENT

MR. ROEMING: Your Honor, first I shall go directly to the merits, and I submit that we have here a very strong decision of the Board, very clear as to Courmettes and the Tillyer patent, and in addition we have the benefit before this Court of Plaintiff's Exhibit 2.

I should like now to call the Court's attention to certain sections of the Tillyer patent, to be read in connection with some very interesting material in Plaintiff's Exhibit 2.

[85] In the Tillyer patent, at column 1, at line 9, Tillyer states:

"This invention relates to ophthalmic lenses for the correction of errors of human vision and particularly to that type of lens which has been corrected for marginal aberrations of focus."

I emphasize that, corrected for marginal aberrations of focus.

Then at column 2, at line 93, he states, that is, Tillyer:

"I assume it has dimensions and correct the aberrations by deforming the surfaces themselves."

Now on page 2, at line 30 of column 1:

"A deformed curve is one which is not a regular spherical, cylindrical or toric curve, such as hitherto used in the manufacture of ophthalmic lenses but which is a variable curve, such as elliptical, parabolic, etc."

THE COURT: Where is that?

MR. ROEMING: Line 34. I emphasize again that in this second paragraph of column 1 of this patent there is the suggestion to one skilled in the art, namely, that here there [86] is a correction for marginal aberrations, and that is in lines 12 and 13 of column 1 of Tillyer.

Now what are marginal aberrations? We have Plaintiff's Exhibit 2. Now looking to plaintiff's Exhibit 2, on the first page, in the lefthand margin, there is this statement:

"An excellent lens by present-day standards. But notice the limited field of view it offers — the presence" — and I emphasize — "of marginal aberrations."

In other words, in Tillyer he has given as his purpose for using a parabolic curve the elimination of marginal aberrations such as illustrated here and which is put in evidence by plaintiff as indicating how this works.

Now here in the first picture we have one which shows marginal aberrations, and below we have a correction of the marginal aberrations and it is attributed to this aspheric lens, which the testimony indicates is paraboloidal. I submit that the Tillyer reference in combination with this Exhibit 2 of plaintiff, in view of this it is clear that there is suggestion to one skilled in the art that the marginal aberrations in any section of a bifocal cataract lens could be corrected by one skilled in the art if he knew what [87] was in the Tillyer patent. Of course, in law all people in the art are charged with knowledge of all the prior art, although of course that isn't always factually true.

Now I submit that we have the clearest case here on the merits. Now, in addition, on the matter of res judicata —

THE COURT: Before you pass to that, according to your argument where does the Courmettes patent fit into this jigsaw puzzle?

MR. ROEMING: The Courmettes patent, which is Exhibit A of Defendant's Exhibit 1, discloses in its very title that it is a cataract bifocal lens. At page 2, column 3 of that patent it is disclosed, in line 25,

that this lens may be plastic. In figures 1 and 2 of the patent drawings, which succeed the text in the folder, in figures 1 and 2 there is disclosed a cataract bifocal lens in one piece, in one piece. Therefore, taking the claims, the only distinction over Courmettes is the fact that plaintiff's lens is paraboloidal rather than spherical. We concede that Courmette's lens is spherical in its two portions.

Therefore, the only question is, was there a contribution to the art, unobvious to one skilled in the art, of the substitution of Tillyer's correction for marginal [88] aberration by use of a parabolic surface and substituting that in the structure of Courmettes.

I submit this is the clearest type of correct case both by the Examiner and the Board of Appeals. Now going on to the question of res judicata as raised, I resort to plaintiff's response to defendant's motion to amend, to read there from page 7. At that point there is a quotation from *In Re Ellis*, a decision of the Court of Customs and Patent Appeals from some years back, I would guess that it was about 1934 or somewhere in there. In that decision the Court gave the correct measure, a measure consistent with Your Honor's *Mallinckroak* decision, the correct measure for the application of res judicata. There the Court in the quotation at the top of page 7 states:

"Of course if claims 46 and 47 of the appealed claims contain subject matter different from the subject matter of the abandoned application, appellant is entitled to have same considered on its merits, but in order to secure patent therefor it must appear that the difference involves invention."

In other words, the difference between the claims now before the Court —

[89] THE COURT: Where are you reading from, Mr. Roeming?

MR. ROEMING: I am reading from plaintiff's response to the motion to amend, at page 7, the quotation at the top of the page. That is from *In Re Ellis*. It is a correct quotation and I emphasize the portion

beginning about the middle, "but in order to secure patent therefor it must appear that the difference involves invention."

And here the term "invention" of course is used in the sense of material that is unobvious. In other words, the claims presently before the Court must differ from the claims in the parent application in subject matter that is unobvious. And that case is followed in *In Re Prutton*, also quoted in appellant's brief —

THE COURT: I notice that plaintiff's counsel quotes from a decision of the Board of Appeals on page 4 of his brief in which the Board takes the position, not in so many words but in substance, that the *Mallinckroak* case is wrong.

MR. ROEMING: I would say this, Your Honor: I am never in the position of citing a case where the Board of Appeals has authority on a question of law against any Court.

[90] THE COURT: Very well. I think that is a very adequate answer and a very tactful one, too.

MR. ROEMING: I submit, Your Honor, that in actual substance the meaning of your decision in *Mallinckroak Chemical* is of the same scope as the meaning of the Court of Customs and Patent Appeals in the case of *In Re Ellis*.

I will not go into the matter of our right to raise the question because Your Honor has already —

THE COURT: I am going to hold that you have the right to raise the question. I don't like to penalize any party in any kind of a law suit on the basis of some technicality and deprive any party of a substantial right by reason of a technicality. I have done that against the Patent Office in the last few days also.

MR. ROEMING: Yes, sir, I am aware of that. Now is Your Honor interested at this point, then, in seeing the comparison of the claims in the parent application?

THE COURT: What is the difference?

MR. ROEMING: The only difference between the claims in the present application that is of any significance is the word "cast". Your Honor has already indicated that in view of the position taken by the plaintiff's counsel in his opening [91] argument that the vital point of this case is the paraboloidal surface in the background stated by the claim, is the critical matter, I call attention again to the fact that in the Examiner's answer, in the Defendant's Exhibit 1-H at page 6, the Examiner makes the interesting statement in view of this indication that the paraboloidal curvature is the vital part of these claims and the others are of secondary significance. The Examiner says:

"Thus it is considered that res judicata applies to the issue of paraboloidal curvature in these claims."

THE COURT: Yes, it is quite clear that the other side wasn't taken by surprise.

MR. ROEMING: Yes. And I think the very quality of their answer before this Court in response to our motion indicates a very thorough search of the law, and I know of no decision that I could cite in addition that would be of any significance on that point. As I say, we have given by our motion to amend written notice that we wanted to raise this point, and I point to the record to show that on the very point of the real novelty in this environment the issue was decided in the previous decision of the Board and there was no resort to the [92] courts to have that decision reversed.

THE COURT: Would you like to say anything in reply?

MR. MISEGADES: Briefly.

#### PLAINTIFF'S REBUTTAL ARGUMENT

MR. MISEGADES: I would observe, returning to the combination of references, it is true that Courmettes refers to a cataract bifocal lens, but in point of fact it has been demonstrated that the word bifocal as used by Courmettes is not in fact what is commonly referred to in the art; that is to say, the focal distance of both parts of the Courmettes



patent are the same, there is no modification of the lower portion for reading as is commonly true.

Now this is the foundation upon which the Patent Office builds, and if the foundation is weak it is my suggestion that you cannot modify it in any way to successfully cure its shortcoming. As to Tillyer, I will say that on the basis of my experience of seven-and-a-half years as an Examiner and my subsequent approximately 30 years of prosecuting patent applications, that I do not find in Tillyer any teaching of anything of significance except his observation of a fact of nature, namely, that the aperture is of appreciable size. Now I will [93] agree that he has provided a string of things that can be put together in a way that is contrary to the welfare of my client if you pick out the right things. Specifically, the reference has been made to the intention of Dr. Tillyer to correct for errors of human vision, particularly in that type of lens which has been corrected for marginal aberration of focus and astigmatism. In other words, he is already modifying a lens that was previously corrected for those difficulties, but then he points out that he is going to correct it further and he says that he can do it by resort to other types of grinding, but he doesn't tell you how to do it. He has said, I have found a problem and I will resort to existing devices that are to be found in the art. But he does not apply the suggestion in any practical way. As I say, it is an extremely poor disclosure.

In the matter of the resort to res judicata, I recognize the language of In Re Ellis. I was careful to include it as one of the citations that had been overlooked by the Solicitor. I would point out, however, that there is a slight lack of clarity there in that reference is made to the invention. Now the invention, particularly in the older decisions, was just the package of the claims and the specification. In more recent decisions the reference has been to [94] the claims as defining the invention, and in this I would point out the dilemma that I was faced with upon receiving the decision of the Board of Appeals in the first application. The Board of Appeals said that the mistake which I had made in prose-

cuting the application was to confuse the word "one-piece" with such limitation as "cast". I will agree that this was indeed a mistake, but what I am saying is —

THE COURT: I wouldn't charge you with making a mistake.

MR. MISEGADES: Oh, but I am charging myself because I recognized it.

THE COURT: It is just a difference of opinion, not a mistake.

MR. MISEGADES: No, I will even go so far as to say quite cheerfully that the Board of Appeals was correct in pointing this out to me. But faced with that and conceding the correctness of the Board of Appeals, I could not appeal the case in its then condition to a higher court because I needed the opportunity to correct an error. And I would suggest that it is apparent in the majority of the decisions, particularly the more recent ones, that some degree of liberality is granted the applicant or inventor in the question of what is the same [95] invention. The criterion is not fully is this invention over the claim that was refused, any more than is the case when an applicant presents several claims in an application.

THE COURT: Mr. Misegades, I try to avoid determining anyone's rights, plaintiff's or defendant's, on technicalities. I try to decide cases on their merits.

MR. MISEGADES: Thank you for that, sir. Now I would like to hand up a decision, comparatively recent, of the Court of Customs and Patent Appeals. It has not yet appeared in the bound volume. I direct your attention to page 57 of the decision, the latter one. This is the case of *In Re Shuman* at 150 USPQ 54, wherein the Court points out that the evidence of commercial success may be particularly significant where it is demonstrated that the commercial success is shown by the copying of the applicant's device by his competitors.

THE COURT: I want to ask you this. I understood from the testimony that the plaintiff has sold his application to someone else.

MR. MISEGADES: This is true.

THE COURT: Well, if that is so, how would he benefit by getting a patent?

MR. MISEGADES: By the terms of the contract of [96] sale.

THE COURT: I see.

MR. MISEGADES: But the point I am making is that this recent decision is a specific application of commercial success, namely, the copying of the invention by a competitor. Thank you.

MR. ROEMING: Your Honor, first of all, I wish to comment about the remarks about Tillyer. I very carefully took into account the contention previously made that this statement in the second paragraph of the Tillyer patent means something else than what it clearly said. I call Your Honor's attention to the fact that that statement cannot possibly be reasonably interpreted in the manner that plaintiff's counsel interpreted it because the patent specifically says, in column 2, and Your Honor has underlined that, I am sure, in the copy before you:

"Therefore, I assume it has dimensions and correct the aberrations by deforming the surfaces themselves."

That is in talking about the invention. And when he makes the statement here in the second paragraph:

"This invention relates to ophthalmic lenses for the correction of errors of human [97] vision."

And this must be read: and relates particularly to that type of lens which has been corrected. That is the invention.

THE COURT: Gentlemen, you have presented, both of you have presented this matter very thoroughly and very ably and really made it a very interesting case in addition to that. I feel I have been much benefitted, especially by your arguments.

I am going to take these papers home and go over them tonight because I want to read the prior art again in the light of your arguments.

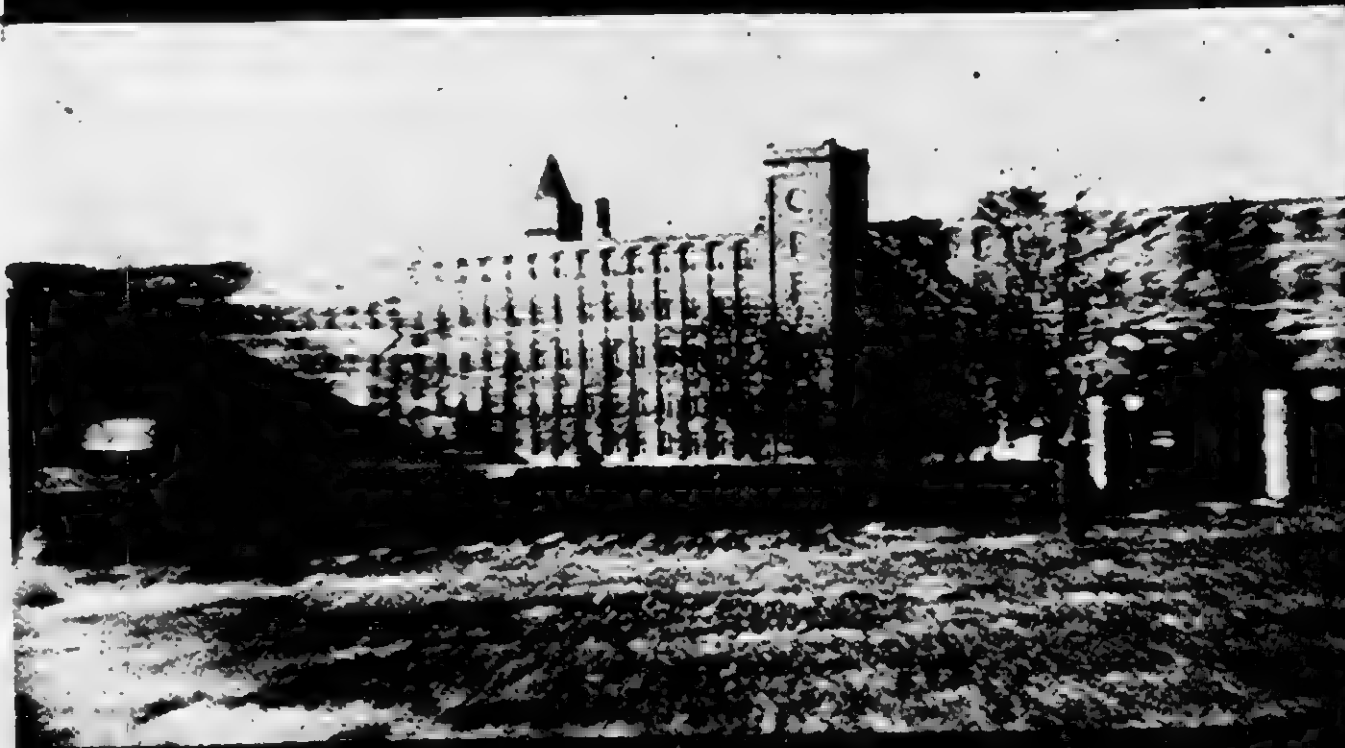
If you will return at 10 o'clock tomorrow morning I will hand down my decision.

\* \* \*

# The New Tillyer AOLITE ASPHERIC CATARACT LENS

## THE LENS:

This photograph was taken through a +12.00D glass spherical cataract lens (minus base)... an excellent lens by present-day standards. But the limited field of view it... the presence of marginal aberrations and distortion... the called "tunnel-vision" effect.



## THE BRIGHTER PICTURE:

Here... In This Photograph

This photograph was taken through a +12.00D AOLITE Aspheric Cataract Lens — under exactly the same conditions as photograph above. Notice the wider field of view it offers... the total absence of aberrations and distortion... and, the increase in detail, particularly at the edges.



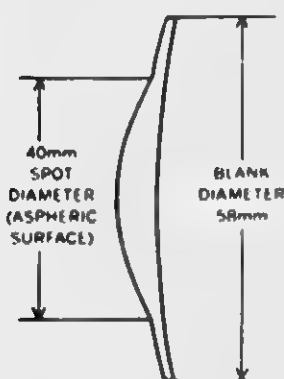
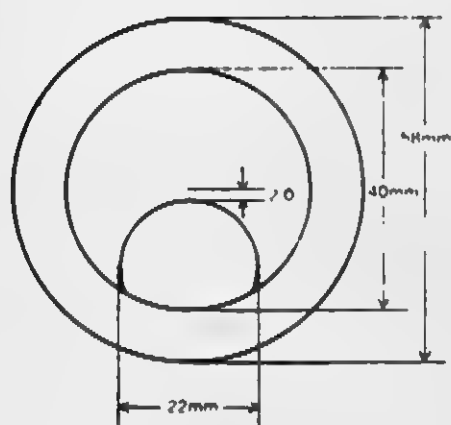
Obviously, the new AOLITE ASPHERIC CATARACT LENS is far superior to the glass spherical lens. And, here are the reasons why. →

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# THE DIFFERENCE IS IN NEW AOLITE ASPHER

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Unlike conventional cataract lenses – which employ single base curves – the surface of the new AOLITE ASPHERIC CATARACT LENS is made with a continually changing radius of curvature from center to outer edge.

This virtually eliminates both marginal sphere and cylinder power errors and dramatically improves visual acuity for oblique areas of view. The *entire* lens is useful . . . there's no "tunnel-vision" effect.

Already, the AOLITE ASPHERIC CATARACT LENS is being hailed as the most significant advance in aphakic lens design in well over a decade. Certainly, it offers cataract patients wider, more generous fields of view than ever before possible . . . opens new and broader avenues of vision for them . . . truly widens their worlds.

## PRESCRIPTION RANGE

	SPHERE	CYLINDER	ADD
SINGLE VISION	+8.25 thru +16.00D	-0.25D thru -4.00D	
BIFOCAL	+8.25 thru +16.00D	-0.25D thru -4.00D	+2.50 and +3.00

FOR COMPLETE DETAILS >

OPY AVAILABLE

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THE LENS SURFACE...

# IC CATARACT LENSES

y changing radii of curvature

## AOLITE — The Secret of Aspheric Lens Reality

### PRACTICAL

The success of American Optical Company in producing an aspheric lens series rests with the development of AOLITE—a synthetic lens material which lends itself to aspheric fabrication.

Because of this, new AOLITE ASPHERIC CATARACT LENSES can be offered on an economically practical basis.



### LIGHTWEIGHT

AOLITE has other advantages, too. It possesses all the optical properties of glass... yet, it is only half the weight of glass, has up to four times the impact resistance. Patients adjust earlier, more comfortably to AOLITE ASPHERIC CATARACT LENSES.



### COSMETICALLY ATTRACTIVE

AOLITE ASPHERIC CATARACT LENSES are less conspicuous than ordinary glass spherical cataract lenses. Moreover, they can be edged to fit any modern, fashionable frame—a frame which is light, comfortable, smartly styled.



### ULTRAVIOLET CUT-OFF

AOLITE, of course, has excellent ultraviolet absorption characteristics... gives patients maximum post-operative protection. Transmission is actually less than 5% at 350 millimicrons—comparable to popular Cruxite glass.



about this revolutionary new lens, see your American Optical Representative... or write:

American  Optical  
COMPANY

SOUTHBRIDGE, MASSACHUSETTS

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Nov. 13, 1951

H. A. COURMETTES

2,574,960

CATARACT BIFOCAL LENS

Filed Oct. 14, 1946

Fig. 1.

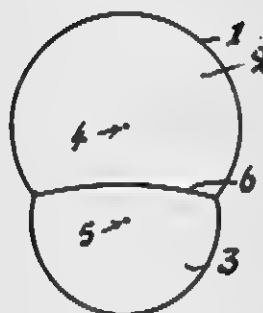


Fig. 2.

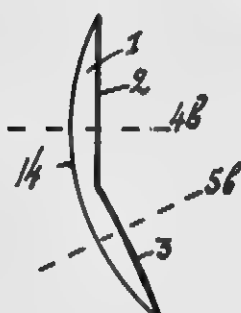


Fig. 3.

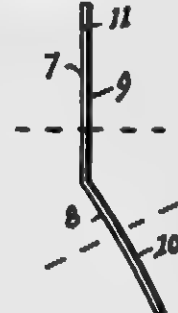


Fig. 4.

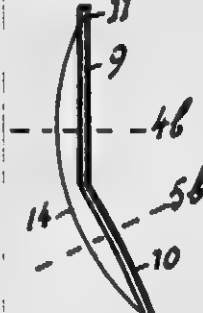


Fig. 5.

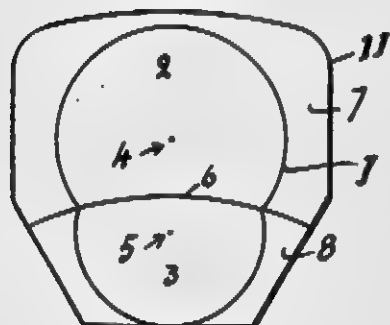


Fig. 6.

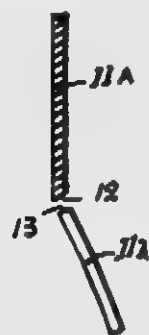
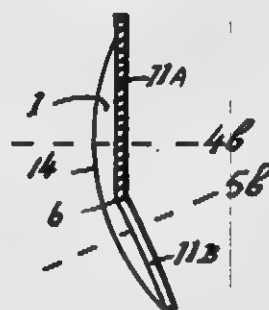


Fig. 7.



INVENTOR.

Henry A. Courmettes

## UNITED STATES PATENT OFFICE

2,574,960

## CATARACT BIFOCAL LENS

Henry A. Courmettes, Coconut Grove, Fla.

Application October 14, 1946, Serial No. 703,192

2 Claims. (Cl. 88-54)

1

The objects of the invention are to produce an ophthalmic cataract bifocal lens having the following features; means to obtain the individual inclination for each and both of its visual areas as desired to improve their disposition to their respective line of vision, and means whereby separate control of the degree of light transmission for each of its visual areas may be included.

I obtain these objects, first, with a new one-piece segment lens of the thin edge convex type but of double lenticular form disposed one above the other and in which its inner side has two differently curved surfaces strongly inclined to each other whereby, in combination with its uniformly finished convex outer side, a different plane of inclination and desired location of optical center are created for each of its two lenticular portions; second, with a main supporting lens of the biplanar form upon which the said segment lens is secured and covers a part coextensive with its double lenticular form, the adjoining sides of both lenses corresponding in surface fitting form; where light control is desired, the said main supporting biplanar lens is made up of two glass sections, an upper and a lower, having different specific light transmitting powers and/or colors and fused edge to edge in a suitable line and upon which the segment lens is then secured so that its upper lenticular portion extends over the upper and its lower portion extends over the lower glass section of the said main supporting lens, thus, the segment lens may be of colorless glass and the finished lens be differently treated for light transmission in its visual areas independently of each other.

The angularly disposed inner surfaces of the segment lens, together with its single convex outer surface, bringing about the desirable forms for the visual portions of a cataract lens and at the same time reducing its weight in the proportion of power and sizes of the visual areas. Thus, the one-piece segment lens creates the two visual areas in the finished lens and completes the total dioptric lens powers.

By this method a cataract ophthalmic lens may be made in which its visual areas present a front substantially normal to their respective visual axes thereby avoiding distortion caused by obliquity of the line of sight relative to and through such strong convex corrective lens, a desired factor involving the quality of sight in aphakia. The method further makes possible the placing of optical centers in the parts of the visual areas mostly suitable so that the wearer

2

may have direct vision in line with objects viewed without interference of prism and chromatic aberrations, and by a slight turn of the lens upon itself give the true pupillary distance for reading.

The two component lenses may be secured together by any method known to the art.

More specifically, references are made to the drawings which form a part of this invention in which similar characters refer to similar parts throughout and in which:

Fig. 1 is a front face view of the one-piece segment lens component showing its double lenticular form.

Fig. 2 is a sectional perpendicular side view of Fig. 1.

Fig. 3 is a sectional perpendicular side view of the main supporting biplanar lens component.

Fig. 4 is a sectional side view of the two lens components joined to form a finished lens.

Fig. 5 is a front face view of a complete finished lens showing both lens components.

Fig. 6 is a sectional side view of two glass sections which have different specific light transmitting powers before welding to form a solid biplanar lens component.

Fig. 7 is a sectional side view of a finished lens the main supporting component of which is made of two glass sections fused together to form a solid lens, and a one-piece bifocal segment lens of double lenticular form secured thereto, the line of fusing demarcation in the said main supporting component substantially corresponding with the line of bifocal demarcation in the said segment lens.

From the drawings, Figs. 1 and 2, the one-piece segment lens 1 is of the thin edge convex lenticular type and is formed, with respect to its inner side, to include two surfaces 2 and 3 which have different curvatures and are set at a calculated angle 4b and 5b to each other and shaped to form, in combination with the single convex surface of its outer side 14, two lenticular portions meeting at the line of demarcation 6 of the said two surfaces 2 and 3; both sides of the said segment lens combining to form two visual areas 2 and 3, an upper and a lower, cause their optical centers 4 and 5 to be within their respective location, and determine the total angular setting of the said two visual areas. The segment lens 1 is secured to the main supporting lens 11. Figs. 3-4-5, this supporting lens component of the finished lens is of a biplanar form Fig. 3 and the segment lens 1 secured to its outer surfaces 7 and 8, the said supporting lens does not need to be of no dioptric power but, in combina-

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3

tion with the segment lens 1, be included in the total dioptric powers of the finished lens. Further, when needed, the said main supporting lens 11 may be composed of two glass sections 11a and 11b shaded differently for light transmission as in Fig. 6 where the components are then fused in a line joining their edges 12 and 13 corresponding with line 6 dividing the two visual areas 2 and 3 and provide a different but substantially uniform shading in each of the said two areas in the finished lens.

In the selection of glass material, obviously, I bear in mind that the more nearly the two glass sections 11a and 11b are of the same index of refraction, the more nearly light reflects from their fused edge surfaces at demarcation 6 are prevented.

The reference to color or shade of glass used herein is understood to include white glass (colorless), smoke, etc. in any shade or tint and, likewise, light transmission power applies to glasses of various colors, shades, tints, white (colorless), smoke, etc.

While glass has been the material referred to herein, plastics, crystals, color flashing, or other materials suitable in the making of my lens, are conceived and their uses included in the invention.

Having thus explained and described my ophthalmic cataract lens and method for making the same, I claim:

1. A cataract ophthalmic bifocal embodying the combination of two lenses; one, a biplanar main supporting lens constructed of two glass sections having different specific light transmission powers and joined together in an angular position substantially corresponding to the desired relative tilting of their respective visual parts in the finished lens, the inner surface curvatures of said biplanar main supporting lens being different to the extent of the additional power required for near vision over that of the distant vision correction; the second, a one-piece segment lens of the thin edge convex power type secured upon the outer side of the said supporting lens and covering a part of both of its sections thereby creating two visual areas corresponding in shape to that of the individual part of the one-piece segment lens extending over each of the said sections and, thus combined, provide the total di-

4

optric powers for both visual areas in the finished lens; further, said segment lens being formed, with respect to one of its sides, to correspond to the form of the side of the biplanar lens upon which it is secured.

2. A cataract ophthalmic bifocal embodying two integral lenses; one, a biplanar main supporting lens having an upper and a lower section angularly disposed in relation to each other and substantially corresponding to the desired tilting of their respective visual parts in the finished lens, the inner surface curvatures of said biplanar main supporting lens being different to the extent of the additional power required for near vision over that of the distant vision correction; the second, a one-piece segment lens of the thin edge convex power type secured upon the outer side of the said supporting lens and covering a part of both of its sections thereby creating two visual areas corresponding in shape to that of the individual part of the one-piece segment lens extending over each of the said sections and, thus combined, provide the total dioptric powers for both visual areas in the finished lens; further, said segment lens being formed, with respect to one of its sides, to correspond to the form of the side of the biplanar lens upon which it is secured.

HENRY A. COURMETTES.

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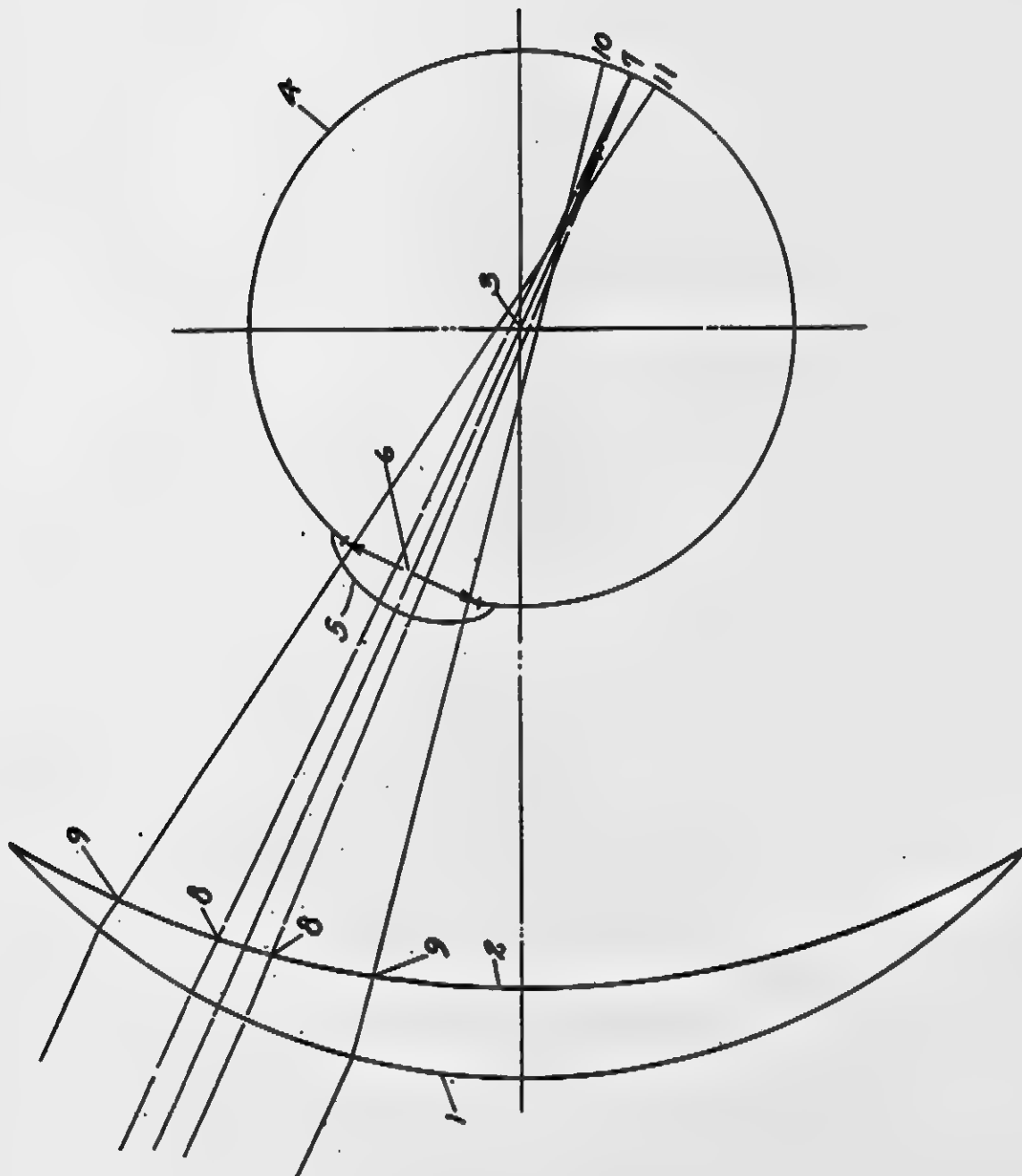
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E. D. TILLYER.  
LENS.  
APPLICATION FILED JUNE 24, 1919.

1,356,670.

Patented Oct. 26, 1920.



INVENTOR  
E. D. TILLYER  
BY  
H. H. Styller & H. Parsons  
ATTORNEYS

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from the original

# UNITED STATES PATENT OFFICE.

EDGAR D. TILLYER, OF SOUTHBRIDGE, MASSACHUSETTS, ASSIGNOR TO AMERICAN OPTICAL COMPANY, OF SOUTHBRIDGE, MASSACHUSETTS, A VOLUNTARY ASSOCIATION OF MASSACHUSETTS.

## LENS.

1,356,670.

Specification of Letters Patent.

Patented Oct. 26, 1920.

Application filed June 24, 1919. Serial No. 306,368.

*To all whom it may concern:*

Be it known that I, EDGAR D. TILLYER, a citizen of the United States, residing at Southbridge, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Lenses, of which the following is a specification.

This invention relates to ophthalmic lenses for the correction of errors of human vision and particularly to that type of lens which has been corrected for marginal aberrations of focus and astigmatism, and in addition thereto further corrected for errors due to the fact that the aperture of the eye has an appreciable magnitude instead of being a point; and the process of making such lenses.

The principal object of the invention is to provide an ophthalmic lens, and a way of making same, free from errors usually present in an ophthalmic lens caused by the magnitude of the aperture of the eye.

Other objects and advantages of the invention will be readily apparent by reference to the following specification taken in connection with the accompanying drawings, and it will be understood that I may make any modifications in the specific details of construction or steps shown and described within the scope of the appended claims without departing from or exceeding the spirit of my invention, the preferred form only being shown and described for sake of illustration.

To facilitate an understanding of the features hereinafter referred to I have appended a sheet of drawings illustrative of the same. Similar references throughout the specification and drawings refer to similar parts.

The figure represents a diagrammatic cross sectional view through the lens and the eye, showing the lines of vision for point aperture, and for wide aperture.

In ophthalmic lenses hitherto manufactured the calculations for the lens have always been based on the theory that the aperture of the eye was a point; that is that it was of infinitesimal size. Now, as a matter of fact, the aperture of the eye has dimensions; it is of appreciable size, and it is the object of my invention to take account of this size of aperture and to calculate the

curves of the lens to compensate for or take care of this feature of vision.

In ophthalmic lenses there are two types of distortion present, one a function of the angular rotation of the eye, that is, the eye does not rotate as far with the lens on as it does when it is off in a negative lens, and vice versa for a positive lens. This type of distortion is a function of the distance of the center of rotation of the eye from the lens surface, as well as the ratio of the two surfaces of the lenses to each other, and is the one usually considered in a lens system.

However, the apparent distortion to the eye is not a function of the angular rotation of the eye but is a function of the pupil of the eye, and this has always been considered a function of the center of rotation of the eye and not of the pupil of the eye.

In my invention I deform the lens surface or surfaces in such a way as to correct the distortion at any individual point of the eye position and at the same time the astigmatism of the lens, the stop point for the astigmatism being the center of rotation of the eye, and that for the distortion the pupil position of the eye at that particular point of rotation of the eye in its socket.

Where the diameter of a bundle of rays is no longer very small, as usually assumed it is limited in oblique directions by the diameter of the pupil of the eye. Now, if we correct the power and astigmatism by shaping the lens we have no variable left to modify if we use spherical or toric surfaces, but in strong powers the aberrations, such as spherical power, coma, etc., are quite important due to the pupil not being a point as previously assumed. Therefore, I assume it has dimensions and correct the aberrations by deforming the surfaces themselves.

Referring to the drawings: the lens surfaces are represented by the characters 1 and 2, 1 being the front surface of the lens. 3 represents the center of rotation of the eye; 4 the eye ball; 5 the pupil; 6 the aperture of the pupil; 7 the position on the retina where the rays are brought to focus when the bundle is a small one, and the aperture of the pupil is considered to be a point. The small bundle of rays is represented by the lines 8—7, and the large bundle by the lines 9—11 and 9—10.

The lens shown has been first corrected for



power and astigmatism using a small bundle of rays 8—7. Considering the pupil aperture as a point, the rays focus on the retina at 7. Having determined the curves to produce the lens for small aperture assumption, I next consider a large bundle of rays, as indicated by the lines 9—11 and 9—10, taking into account the full opening 6 of the pupil of the eye. It will be seen that these lines do not focus on the retina at 7, but cross each other at some other point, thus introducing aberrations. To correct these aberrations I deform the lens surfaces in such a way as to retain the original desired power and freedom from astigmatism and at the same time will cause the lines of the big bundle to focus at the proper point on the retina.

I may either grind the lens to the curves calculated for point aperture and deform the surfaces locally to correct the aperture aberrations, just as a telescopic lens is corrected by grinding away minutely until the lens is correct in all sections, or I may calculate such mathematical curves as will give the approximate desired results, and grind the surfaces to these curves on grinding mechanism designed to trace these mathematical curves.

A deformed curve is one which is not a regular spherical, cylindrical or toric curve, such as hitherto used in the manufacture of ophthalmic lenses but which is a variable curve, such as elliptical, parabolic, etc.

The calculations for determining the curves of the lens follow the usual formulae

for calculating lens surfaces and are arrived at in a similar manner; these formulae and methods of calculating lens surfaces may be found in any textbook or treatise on lens grinding. The method of grinding the surfaces, including roughing, smoothing, polishing and finishing is the same as that for regular ophthalmic lenses, using the same kind of tools and grinding ingredients which are well known in the art.

Having described my invention, what I claim is:

1. The method of making ophthalmic lenses comprising making a lens with surfaces related to give desired focal and astigmatic values for a point aperture of the pupil of the eye, and altering said surfaces to correct for the width of the pupil opening.

2. An ophthalmic lens having surfaces related to give the desired focal and astigmatic values for point aperture of the pupil of the eye, one of said surfaces being deformed to correct for the width of the opening in the pupil of the eye.

3. An ophthalmic lens having its bounding surfaces related to give desired power of astigmatism about the center of rotation of the eye and deformed to produce the desired focal power for the actual aperture of the pupil of the eye.

In testimony whereof I have affixed my signature in presence of two witnesses.

EDGAR D. TILLYER.

Witnesses:

HARRY H. STILL,  
H. K. PARSONS.



## AN APPROACH TO THE PROBLEM OF A CORRECTED CURVE ACHROMATIC CATARACT LENS\*

J. K. Davist and Gilbert Clotarf  
Research Department, American Optical Company  
Southbridge, Massachusetts

The problem of designing a corrected curve and/or achromatic cataract lens seems to have been passed by, as design of ophthalmic lenses has progressed in the past few years. True, there have been advances in making the lenses more cosmetically attractive and lighter in weight. However, the optical performance of the newer lenses is not greatly improved from the older types of lenses. There is a significant difference in the performance between a plano convex lens and a 3.00 base, but beyond that, no great progress has been made.

It is obvious that there is room for improvement, and if improved cataract lenses could be made available to the people who need them, an important group of our population would receive better vision than they have been receiving heretofore.

It is common knowledge that cataract lenses suffer severely from marginal astigmatism, marginal power errors, chromatic aberration, and distortion. This plurality of defects, itself, although creating ample room to work in, poses a problem. Which one is the most annoying? How can one balance the residual aberrations of the various types to obtain optimum results from the standpoint of the patient? If it is not feasible to correct all aberrations, which should be emphasized? How far will the patient go in doing away with weight and cosmetic appearance factors in order to obtain optical performance? In designing many types of lenses, the types of compromises which can be made are much more accessible for evaluation than is the case with designing a new cataract lens.

Early study of the design problem revealed that there were three basic approaches which could be undertaken. One would be to correct astigmatism and power errors by means of aspheric surfaces. The other would be to correct chromatic aberration by means of using two different indices of glasses in a cemented or fused doublet, and the third would

\*Read before the annual meeting of the American Academy of Optometry, Chicago, Illinois, December 11, 1955. For publication in the December, 1956, issue of the AMERICAN JOURNAL OF OPTOMETRY AND ARCHIVES OF AMERICAN ACADEMY OF OPTOMETRY.

†A.B., Fellow American Academy of Optometry. Research in Ophthalmic Lens Design, Head Optical Computing and Service Section, Research Department, American Optical Company.  
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be to try to combine the two, to correct astigmatism and to correct color in a single doublet type of lens.

In a spectacle lens any doublet type is automatically lenticular in one form or another. Because of this, there is always a temptation to reduce the spot size to save weight and thickness. In order to determine what size spot might be used in such lenses, it was necessary to undertake a brief study of the effect of lenticular spots on the field of view and the relative weight and thicknesses involved for different lenses with different spot sizes.

When we speak of balancing defects to obtain optimum performance in any design task, whether we realize it or not, we are weighing various characteristics of the object to arrive at a single index of quality in order to say that one design is better than another.

In order to weigh the merits and evaluate the various designs which we expected to consider, it was necessary to develop a single figure of merit, some one criterion by which different lenses which were correcting different aberrations could be compared.

It was necessary to consider the possibility of a lens series based on at least one of the various designs.

It was necessary to make a photographic evaluation of these concepts of design and of figure of merit, in order to demonstrate the compromises which were being made and the improvements which were being achieved.

We had been aware that aspheric cataract lenses were not new, but until we began to work on the problem, we had not realized the extent to which all three of these approaches had been studied before. Several approaches had been made in Germany between 1900 and 1915 resulting in corrected curve doublets and anastigmatic aspheric cataract lenses.<sup>1,2,3</sup> Dr. E. D. Tillyer patented an achromatic lens which did not correct astigmatism but which did correct color, and was made in a lenticular form with an invisible spot.

In order to present the entire problem as we have been studying it, this paper will discuss:

1. The method of approach in designs of aspheric cataract lens.
2. The principle of a corrected curve doublet.
3. A consideration of the earlier work on the problem—or modification of the achromatic doublet.
4. A study of field of view and spot size. Weight and thickness of various lenses.
5. The development of a figure of merit.

# 6. An outline of the possibilities of a lens series.

## 7. Photographic evaluation of various styles of lenses.

### ASPHERIC LENS

This project was set up to study the improvements in cataract lenses which might be obtained by the use of aspheric surfaces, particularly aspheric interfaces in a crown-flint type doublet. In the process of studying these possibilities, it was found that considerable improvement in color, astigmatism and power for oblique fields of view could be obtained with spherical surfaces alone. This improvement was at the expense of some additional thickness, some additional weight, and some additional complexity in manufacture over conventional cataract lenses.

The question now comes up: What advantage would aspheric surfaces have? Except for very strong lenses above +15.00 D, very little, if color correction is desired. The lateral color correction is a result of the negative refraction at the interface and therefore requires a steep interface which means a lens of about the same appearance and shape as the spherical type.



$$h_w/h_f = \frac{1}{n} \left( \frac{r_1}{r_2} \right)^2 \frac{dz/dy}{dy}$$

$$= \frac{r_1^2}{r_2^2} \left( \frac{dz}{dy} \right)^2$$

$$h_w/h_f = \frac{r_1}{r_2} \frac{dz}{dy} = R_1 \frac{dz}{dy}$$

$$dz/dy = 1/R_1 \cos \theta$$

$$R_1 = \frac{1}{\frac{dz}{dy} \cos \theta}$$

Fig. 1.

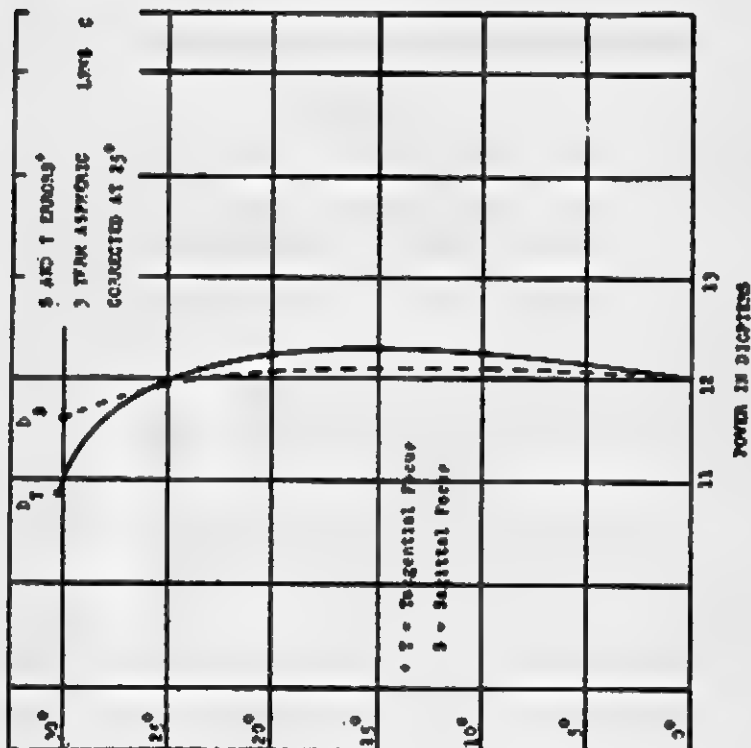


Fig. 2.

Another type of aspheric cataract lens was also considered. This type would be similar to the present style E lenticular except that the front surface would be aspheric. This would make possible a "blending" of the border line and result in a lightweight lens corrected for power, and astigmatism, better looking than the present style E, but not corrected for color. This is a serious drawback. The design of such a lens is shown as lens C, Figure 3.

The design of aspheric spectacles corrected for marginal power and astigmatism is not difficult. Equations have been developed which are straight forward to use. The method is indicated below.

### A METHOD OF DESIGNING AN ASPHERIC SPECTACLE LENS CORRECTED FOR MARGINAL POWER AND ASTIGMATIC ERRORS

By using techniques similar to those by which the astigmatism of a surface is computed, one can compute the curvature in each meridian which would yield zero astigmatism or cancel out the astigmatic error present in a bundle of rays as they strike a particular point on the surface.

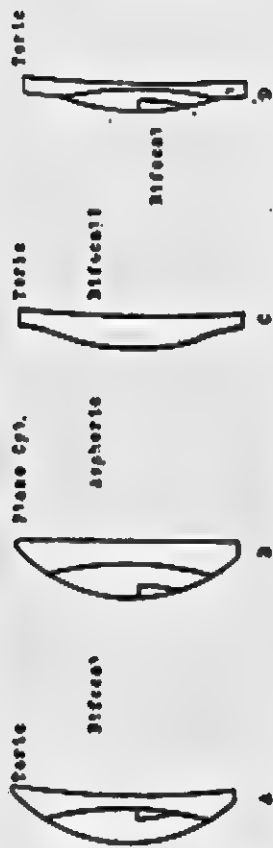


Fig. 3. Types of possible corrected curve cataract lenses. (A) —3.00 D. base doublet spherical surfaces, achromatic. (B) Flat doublet spherical surfaces, achromatic. (C) —3.00 D. base single lens aspheric. (D) —1.00 D. base lenticular doublet, spherical, achromatic.

By tracing rays through the lens to the aspheric surface so that they strike this surface at various heights, the curvature required for zero astigmatism at each of these heights can be determined. Solution of a system of simultaneous equations gives the equation of a surface which yields this freedom from astigmatism. Although there are limits to which this method may be put, it is sufficiently accurate to permit its use in cataract lens correction. To all intents and purposes such a lens may be considered well corrected.

The next step is to find a means of expressing a surface which has the required radius in each meridian at designated points. If we express  $X$  in terms of  $Y$ , the surface can be expressed as

$$X = ay^2 + by^4 + cy^6 \dots$$

In the diagram (Figure 1)\* since  $S$ , the surface, is a figure of revolution  $PC$  is  $R$ , the radius of curvature at  $P$  in the meridian perpendicular to the paper.  $PZ$  is the radius of curvature in the plane of the paper ( $R_1$ ).

It is obvious that  $dx/dy = \tan \omega$ ,  $y/R_1 = \sin \omega$ ,  $dx/dy$  is the first derivative of the equation above.

In using these formulas, it is necessary to correct from the spherical radius, to the aspheric, all other differential changes that are not important changes in  $\phi$ ,  $\phi'$  and  $\gamma$ .  $\phi$  and  $\phi'$  are the angles the incident and refracted rays make with the normal to the surface. In the example cited, a reasonably good correction was obtained through a 25° field

\*The customary form of the expression for radius of curvature is given in terms of  $dy/dx$  instead of  $dx/dy$  and is exemplified as found in *Smithsonian Mathematical Formulas and Tables of Elliptic Functions* from Smithsonian Miscellaneous Collections, Vol. 74, No. 1, page 38, paragraph 2.222. We chose the alternate form because our  $x$  is the dependent variable instead of the independent as is assumed in the theoretical discussion of this type of curve.

(all that is useful in style E) by using only three terms  $a$ ,  $b$ ,  $c$ .  $a$  is obtained by the paraxial relationship:

$$X = \frac{Y^2}{2R} \quad a = \frac{1}{2R}$$

$b$  and  $c$  are found by expressing the first and second derivatives using the radii desired in each meridian. For a higher degree of correction or for angles above 25° or for stronger lenses, additional points will be needed; the procedure for each point being the same. Each additional point considered adds two terms to the equation. The data for the lens under discussion follows:

Ocular radius (—3.00)	1.53	176.66 mm
Front radius (paraxial)		36.55 mm
Center thickness		4.6 mm

Equation of front surface: where the value.

$X = 1.3679 \times 10^{-2}y^2 + 3.8942 \times 10^{-4}y^4 - 3.7126 \times 10^{-9}y^6$   
Additional correction can be obtained by using more points an additional simultaneous equations requiring additional complexity which is undesirable in an illustrative example.

A plot of the residual aberrations in the above lens is shown in Figure 2.

#### PRINCIPLE OF A CORRECTED CURVE CATARACT LENS

When one analyzes why one cannot design a singlet cataract lens which is corrected for power and astigmatism for oblique fields of view one can see the only door open for correcting these aberrations is a doublet lens. Looking at the upper diagram Figure 4, one can see that the fact that the stop point is 27 mm back of the ocular surface, means that it is impossible to get a steep negative refraction, even though the ocular surface is negative. The rays that enter the eye suffer a positive refraction of the ocular surface because the radius of the ocular surface is longer than the stop point distance. They are bent toward the axis of the lens as if the surface was positive.

Now, if we consider astigmatism and power errors as a function of a refraction, a plus lens creating plus astigmatism and the negative lens creating minus astigmatism in the common sense of the word, one can see it is impossible to get any minus astigmatism from the rear surface of a cataract lens unless one makes the radius extremely steep. What is needed is a steep negative refraction somewhere to balance the plus astigmatism which is present, largely at the ocular surface, and to a lesser extent at the front surface of the lens. This above is a physics.

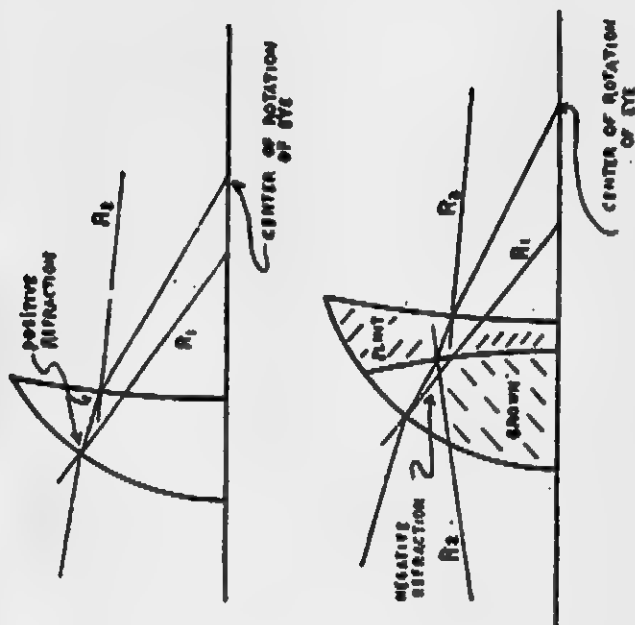


Fig. 4.

explanation for the Tscherning Ellipse which shows that one cannot correct astigmatism above +7.00 diopters. In Figure 4 (lower diagram) we notice an interface where the front component is of lower index than the rear component. This interface provides us with the much needed negative refraction. It is the whole secret of a corrected curve doublet cataract lens. If we do not have a refraction of this type, we cannot get correction. Reversing the position of the glasses makes the lens worse than a singlet. It is obvious that the deepness of the curvature will affect the amount of correction. It is also at this same interface where we have a steep negative refraction that the lateral color is corrected, because no matter what the indices of the glasses are, we cannot correct lateral color unless we have a negative refraction—a negative bending of the field ray somewhere.

#### A CORRECTED CURVE DOUBLET

The corrected curve achromatic cataract lens which we will consider is similar to a simple telescope objective in composition. It is made of a crown positive front element and a flint negative rear element. Three forms are shown in Figure 3. Lens A, a slightly bent shape. Lens B, a plano convex form and Lens D, a slightly bent, bevel lenticular type. In all cases, the positive portion is crown (or barium crown) and the negative portion is flint.

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BRIEF FOR APPELLANT

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**United States Court of Appeals**

FOR THE DISTRICT OF COLUMBIA CIRCUIT

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NO. 20,838

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WALTER M. FREEMAN,

*Appellant,*

v.

EDWARD J. BRENNER,  
Commissioner of Patents,

*Appellee.*

---

APPEAL FROM THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA

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United States Court of Appeals  
for the District of Columbia Circuit

FILED MAY 8 1967

*Nathan J. Paulson*  
CLERK

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Washington, D. C. 20005

*Attorney for Appellant*



## STATEMENT OF QUESTIONS PRESENTED

1. The principal question presented is whether the Trial Court and the United States Patent Office erroneously rejected Appellant's claims as unpatentable under 35 U.S.C. § 103 on the ground that the subject matter of Appellant's invention would have been obvious to a person having ordinary skill in the art.

2. Ancillary to the principal question there is the question as to whether the Trial Court erred in construing and applying two of the prior art patents, Tillyer and Courmettes, which were relied upon in rejecting Appellant's claims.

3. Ancillary also is the question whether it is necessary for the Plaintiff in a civil action under 35 U.S.C. § 145 to establish that there is no rational basis for the Patent Office refusal of claims.

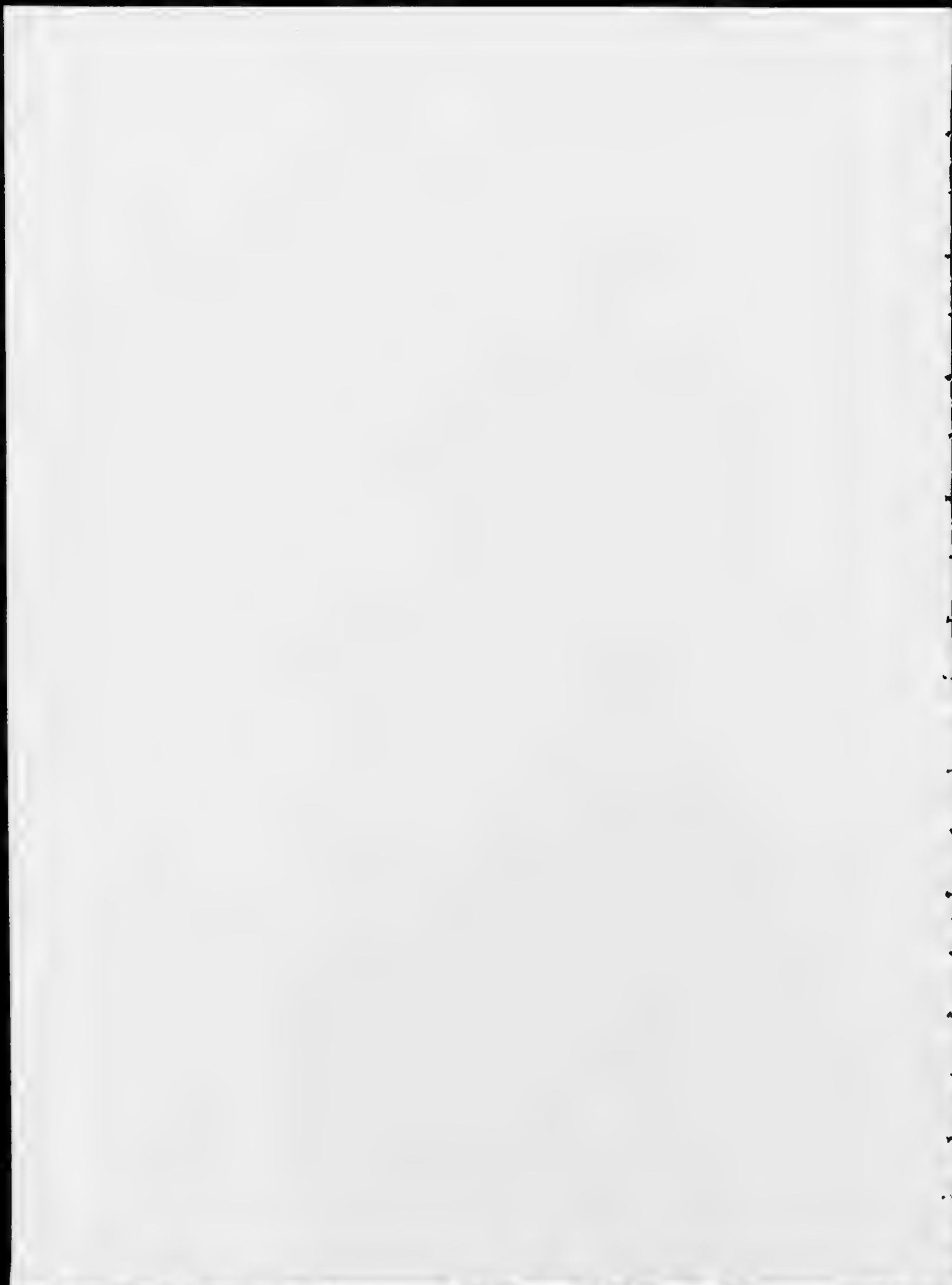
In The  
UNITED STATES COURT OF APPEALS  
For The  
DISTRICT OF COLUMBIA CIRCUIT

No. 20,838

WALTER M. FREEMAN, APPELLANT

VS.

EDWARD J. BRENNER, COMMISSIONER  
OF PATENTS, APPELLEE



## INDEX & TABLE of CASES

Statement of questions presented	1
Index	111
Jurisdictional statement	1
Statement of the case	1
The Freeman invention	3
Development and accomplishments	5
The prior art	6
Appellant's position	7
Statutes and Rules involved	7
Statement of Points	8
Summary of argument	9
Argument	10
Point One	11
Point Two	16
Point Three	21
Point Four	22
Conclusion	23
Certificate of Service	24
Appendix A - claims	A-1

### Table of Cases

American Cyanamid v. Hercules, Inc., 151 U.S.P.Q. 488 (D.C. Del. 1966)	18
* Application of Shuman, 361 F. 2d 1008 (C.C.P.A. 1966)	16
* Arthur J. Schmitt Foundation v. Stockham Valves, Inc. 151 U.S.P.Q. 474 (D.C.N.D. Ala. 1965)	20

* Graham v. John Deere Co., 383 U.S. 1, 86 S.Ct. 684 (1966)	12,19,20,22
Reiner v. I. Leon Co., 285 F. 2d 501 (2 Cir 1960)	20
Standard Oil Development Co. v. James B. Berry Sons Co., 92 F. 2d 386 (3 Cir. 1937)	19
Tietig v. Ladd, 228 F. Supp. 636 (D.C., D.C. 1964)	11
Zenith Radio Corporation v. Ladd, 310 F 2d 860,862 (1962)	11
United States Code, Title 35, § 103	7,11,16,19,22
United States Code, Title 35, § 145	7
Federal Rules of Civil Procedure, Rule 52(a)	8,11

\* Cases chiefly relied upon are marked by asterisks

### Jurisdictional Statement

This is a civil action by Walter M. Freeman, Plaintiff-Appellant (hereinafter called Appellant), a citizen of Pennsylvania against Edward J. Brenner, Commissioner of Patents, Defendant-Appellee (hereinafter called Appellee), pursuant to 35 U.S.C., Sec. 145, seeking a decree that Appellant is entitled to Letters Patent for his invention as disclosed and claimed in his application Serial No. 258,116, filed February 8, 1963 (Pl.Ex. 3, JA 25). Jurisdiction was vested in the United States District Court for the District of Columbia by virtue of said Section 145 and this Honorable Court has jurisdiction on appeal under 28 U.S.C., Sec. 1294.

### Statement of the Case

Appellant's application relates to an eyeglass lens for cataract patients. Prior to the commercial availability of eyeglass lenses made in accordance with appellant's invention, eyeglasses supplied to cataract patients were commonly very heavy and did not permit the individual to have as much side vision as he had prior to the time he had lost his vision due to cataracts. This condition was frequently referred to as "tunnel vision". Appellant's lenses permit significant restoration of side vision to cataract patients. The application contained twelve claims. Claims 1 to 8, attached hereto as Appendix "A", remain for consideration. All of



said claims were finally rejected by the Examiner on November 15, 1963 and the Board of Appeals affirmed the Examiner on May 18, 1965 (Pl. Ex. 3, JA 21), relying, among others upon the following patents (Def. Ex. 1, Tabs A & D, JA 85, 91):

Courmettes 2,574,960 November 13, 1951

Tillyer 1,356,670 October 26, 1920

All of the claims were rejected under 35 U.S.C., Sec. 103 upon Courmettes in view of Tillyer, it being the opinion of the Examiner and the Board that the Freeman invention would have been obvious at the time the invention was made, to a person having ordinary skill in the art.

Plaintiff duly filed his complaint (JA 2) in the United States District Court for the District of Columbia, pursuant to 35 U.S.C., Sec. 145, seeking allowance of all the rejected claims.

At trial before Honorable Alexander Holtzoff (Tr 1, JA 34) plaintiff relied in part upon the record as made in the Patent Office but also presented new evidence including testimony of appellant and exhibits. Defendant stood upon the record made in the Patent Office.

Following closing arguments on November 16, 1966, Judge Holtzoff continued the case until the following morning. On November 17, 1966 Judge Holtzoff read his oral opinion, rendering judgment for the defendant and dismissing the complaint, the basis of his de-

cision being that the subject matter was obvious and unpatentable under 35 U.S.C., Sec. 103 (JA 5) Counsel for the defendant was instructed to prepare Findings of Fact and Conclusions of Law (JA11) and these, together with an order granting motion of the defendant to amend answer (JA11) were entered on December 5, 1966.

Plaintiff has duly perfected appeal to this Court and the following summary of the record will lay the basis for establishing that the oral opinion, Findings of Fact, Conclusions of Law and Judgment are clearly wrong and that the appellant is entitled to Letters Patent as sought.

#### The Freeman Invention

The invention, shown in the drawing (Pl.Ex.3, JA 31) consists of a lens having a distant vision portion 1, arranged symmetrically about a vestical axis and a near vision portion 2 below it. While the drawing is not intended to be precisely to scale, it will be observed that the lens is rather thicker than usual. This is characteristic of lenses for cataract patients. Not an essential part of the invention is the surrounding and supporting edge 3. Also, as shown in Figure 2, an additional correction can be ground into the rear face 4 of the lens.

The nature of this invention does not make it practical for it to be understood from the drawing alone. The specification, being addressed to the optical technician may require some added explana-

tion.

A lens affords magnification by reason of its curvature — greater curvature gives more magnification but, at the same time, the area of vision seen in magnified form, is cut down. It is for this reason that the photographer backs off from the group, in order to get a clear image of the persons standing at the ends of the group.

Because the natural lens has been removed from the cataract patient, the eyeglass lens that is worn, must replace this as well as provide for corrections. This requires greater curvature for more magnification, reducing the field of vision. This is primarily manifest at the sides, since much of the downward area in a bifocal lens is arranged with a reading correction. It is this loss of vision in the cataract patient that has come to be called "tunnel vision".

The optical technician, engaged in the manufacture of eyeglass lenses, grinds his lenses with a spherical correction. That is to say, the surface of the normal eyeglass lens constitutes a small fraction of the surface of a sphere, if the patient's condition is the simple one of correction for near or distant vision. An additional correction is made for the astigmatic patient but this is not presently germane to the explanation. The use of spherical surfaces in the optical industry is largely dictated because they can be economically and exactly reproduced in any optical shop to

provide each patient with the exact prescription required for his needs

In order to provide the cataract patient with the desired wider angle of vision, appellant has provided a lens wherein the distant vision portion of the lens is ground with an aspherical (non-spherical) curve, called a paraboloidal curve, with the magnification significantly greater in the center than at the side portions. As a result, with the Freeman lens, the cataract patient has a relatively wider range of side vision, freeing him from the necessity of turning his head from side to side, as has heretofore been necessary.

#### Development and Accomplishments

Parabolic curves, as such, are not new in the field of optics. They are regularly used in the grinding of large telescope mirrors but they have not been normally used by optical technicians of the class who usually grind eyeglass lenses to fill the requirements of the average eyeglass wearer.

Mr. Freeman has long been a wholesale and retail optician who grinds eyeglass lenses to the prescription of eye doctors and fits them to frames for the wearers. As such, he did not have the equipment for grinding parabolic curves (Tr.31 JA<sup>46</sup>) nor would others in his position. The substitution of a parabolic surface in an eyeglass in place of the usual spherical lens is not something an op-

tician can do so it would not be within his ordinary skill to do.

It required some time for the inventor, with the aid of outside laboratories to successfully make the desired lens. After that, others copied his work. One of the copies is shown and described in the advertising brochure constituting Plaintiffs Exhibit No. 2, JA 79 . It would be presumptuous to characterize this invention as one of the most significant of the century but it is one that is commercially successful, it fills a long-felt want and it contributes significantly to the comfort and convenience of many eyeglass users.

#### The Prior Art

A number of references were relied upon by the Examiner and the Board of Appeals but, before the District Court (Tr 102 JA 7 ) counsel for the Patent Office relied upon two patents and the Court followed this in the Opinion.

The first of these is Courmettes, No. 2,574,960. This patent discloses a lens in two segments for cataract eyeglasses. The curvature shown in this patent is spherical - not parabolic.

The second patent relied on by the Patent Office is Tillyer, No. 1,356,670. This patent relates to optical lenses generally and particularly discusses correction of marginal errors of focus and astigmatism, indicating that aberrations may be corrected by a deformed curve such as a parabolic one.

Tillyer explains that, since the main corrections in ordinary eyeglasses are made by spherical grinding, the additional corrections he proposes, must be made by resorting to compound curves but how this is done is not clearly explained. The Patent Office has said that Tillyer's suggestion may be employed, without invention, to modify Courmettes.

#### Appellant's Position

It is appellant's position that any obviousness springs from hindsight and that unobviousness is demonstrated by recognized experts in the art both in word and in deed.

#### STATUTES AND RULES INVOLVED

The relevant parts of the statutes and rules involved in this case are as follows:

##### 35 U.S.C. § 103. Conditions for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

##### 35 U.S.C. § 145. Civil action to obtain patent

An applicant dissatisfied with the decision of the Board of Appeals may unless appeal has been taken to the United States Court of Customs and Patent Appeals, have remedy by civil action against the Commissioner in the United States District Court for the District of Columbia if commenced within such time after such decision, not less than sixty days, as the Commissioner appoints.



The court may adjudge that such applicant is entitled to receive a patent for his invention, as specified in any of his claims involved in the decision of the Board of Appeals, as the facts in the case may appear and such adjudication shall authorize the Commissioner to issue such patent on compliance with the requirements of law. All the expenses of the proceedings shall be paid by the applicant.

## Federal Rules of Civil Procedure

### Rule 52. Findings by the Court

(a) Effect. In all actions tried upon the facts without a jury or with an advisory jury, the court shall find the facts specially and state separately its conclusions of law thereon and direct the entry of the appropriate judgment; ... Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge the credibility of the witnesses. ...

### STATEMENT OF POINTS

#### Point ONE

The Court clearly erred in finding and concluding that all of Appellant's claims are unpatentable as obvious under 35 U.S.C. §103.

#### Point TWO

The Court erred in finding that the subject matter of Appellant's claims would be obvious to one skilled in the art in view of the prior art.

#### Point THREE

The Court erred in finding that the Courmettes patent No. 2,574,960 discloses an integrally formed, one-piece plastic cataract bifocal segment lens.

#### Point FOUR

The Court erred in finding that Appellant was required to establish that there was no rational basis for the Patent Office refusal of the claims.

## SUMMARY OF ARGUMENT

### Point ONE

A. The Trial Court found and concluded, as did the Patent Office that the Freeman invention was unpatentable under 35 U.S.C. § 103.

B. We submit that those findings and conclusions are erroneous because there was not employed the standard of what an ordinary man skilled in the art might do, but rather an incredibly higher standard. The evidence shows that even those unusually skilled in the art declared that there was a long felt want for the invention and admitted failure by others to satisfy this want. It also shows imitation by others after success.

### Point TWO

A. The Trial Court found, as did the Patent Office that the invention would be obvious in view of the references.

B. We submit that the evidence shows that: 1. the use of parabolic curves was not available to one ordinarily skilled in the art; 2. the only patent teaching the use of parabolic curves, namely, Tillyer was a "paper" patent and 3. Tillyer failed to show how his proposals could be put into effect.

Point THREE

A. The Trial Court found that the Courmettes patent No. 2,574,960 discloses a bifocal cataract lens.

B. We submit that the Courmettes patent discloses a one-piece lens composed of two segments arranged at an angle to each other, having a single, continuous external surface of the same curvature, thereby effectively excluding bifocal character.

Point FOUR

A. The Trial Court found that Appellant was required to establish that there was no rational basis for the Patent Office refusal of the claims.

B. While we believe that the record does indeed establish that the Patent Office refusal of claims was without rational basis, the Supreme Court has declared that the ultimate question of patent validity is one of law. Since the question of patentability is equivalent to that of validity we take the position that it was the proper function of the Trial Court to inquire into all matters of law before it.

ARGUMENT

Appellant recognizes a dual burden in undertaking to overcome the decision of the Court below and the decision of the Patent Office rejecting his claims.

The preparation of a patent application is exacting. While, under former practice, Examiners were expected to resolve doubts in favor of the applicant, in point of fact, there has been a feeling by solicitors, that doubts have been resolved against applicants in many cases.

Further, when review is sought in the District Court, it has been said that there is a presumption of correctness attached to the findings of the Patent Office although, if the action is shown to be "clearly erroneous", the court must find for the plaintiff Tietig v. Ladd, 228 F. Supp. 636, 639 (D.C. DC 1964). Likewise, under Rule 52(a), F.R.C.P. the Trial Court's Findings of Fact are to be set aside only if "clearly erroneous".

This Court has announced the rule that the presumption favoring the finding of the Patent Office is reinforced when confirmed by the District Court and will not be overturned unless clearly infected with error. Zenith Radio Corporation v. Ladd, 114 App. D.C. 54, 57, 310 F 2d 860, 862 (1962).

However, since the question of patentability is a matter of law, Appellant is encouraged to bring that matter to this Honorable Court for review.

#### Point ONE

The court clearly erred in finding and concluding that all of Appellant's claims are unpatentable as obvious under 35 U.S.C. §103.  
(Conclusion of Law No. 1)

"A patent may not be obtained...if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would

have been obvious at the time the invention was made, to a person having ordinary skill in the art..."

Recently the application of this section has been authoritatively stated in Graham v. John Deere Co. 383 U.S. 1,17,18; 86 S.Ct. 684,694 (1966) in the following language:

"... the §103 condition, ... lends itself to several basic factual inquiries. Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims in issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy."

One of the requirements of the statute is that the determination as to what would be obvious is to be made as at the time the invention was made. The testimony shows that the invention was made in the late summer or early fall of 1956 (Tr. 30 JA 46).

The Court, in assessing the quality of the testimony stated:

"In this instance we have the views of impartial experts of the Patent Office..." "Naturally, although the Court has no doubt of his sincerity or probity, he has a partisan point of view and his opinion is not sufficient to overcome the highly skilled and expert opinions of the Patent Office, especially because officials of the Patent Office are neutral and impartial in such matters, as well as acquiring and developing a high degree of skill."

It is submitted that the Court has pointed to a serious weakness in the quality of the Patent Office evidence, available from the record of the application. The Patent Office conclusions as to

what is obvious take place a year or more after the invention date, the frame of reference specified by the Statute. Thus, the Patent Office is led to include more background of technology in its estimate of what is obvious than it ought.

The Trial Court paid tribute to the high skill and expert opinion possessed by the Patent Office officials. It is submitted that such qualities are excluded by the Statute which sets the standard of judgement as that of a person having only ordinary skill in the art.

Although these officials are impartial in not preferring one inventor to another, it is difficult for them to place themselves in the position of an ordinary person as required by the Statute because: 1. they have greater expertness and 2. they have the benefit of hindsight. Is it not desirable to test the objectivity of judgement of the men of the Patent Office?

One of the leading producers of eyeglass supplies in the United States is the American Optical Company. Appellant is a customer of this company but has no other interest in it. It is to be expected that its conduct and that of its employees would not favor Appellant.

One of the references employed during the prosecution (Def. Ex. 1, Tab F, JA 97) but abandoned below by Patent Office counsel, was an article by J.K. Davis & Gilbert Clotar of the Research Department of the American Optical Company: An Approach to the Problem of a Corrected Curve Acromatic Cataract Lens. This paper was



read orally a number of months before Appellant made his invention and was published shortly afterwards. Since the statements made therein are close in time when the invention was made and, coming from members of the Research Department of a leading company in the industry should reflect expert, rather than ordinary knowledge of the art defined by the title of the paper. The authors state:

"The problem of designing a corrected curve and/or acromatic cataract lens seems to have been passed by, as design of ophthalmic lenses has progressed in the past few years."

"It is obvious that there is room for improvement, and if improved cataract lenses could be made available to the people who need them, an important group of our population would receive better vision than they have been receiving heretofore."

"It is common knowledge that cataract lenses suffer severely from marginal astigmatism, marginal power errors, chromatic aberration and distortion." (p. 643)

"When one analyzes why one cannot design a singlet cataract lens which is corrected for power and astigmatism for oblique fields of view, one can see the only door open for correcting these aberrations is a double lens." (p. 648)

These are research employees of American Optical Company, owner of the Tillyer patent, used by the Patent Office as a reference. They had made an expert study of the problem and had concluded that there was no solution to the problem unless a two-piece lens was used. These men, perhaps not as expert as the Patent Office officials, but nevertheless expert, did not find obvious what the Patent Office held to be obvious.

The conduct of the American Optical Company subsequent to this publication is also revealing. Appellant, after extended search

finally, in the early summer of 1958, was able to get molds made so that he could produce satisfactory lenses (Tr. 37, JA 49). This difficulty itself shows that it required more than ordinary manufacturing ability to produce the invention.

No equivalent article was then available but the American Optical Company advertised its product in October 1958, following Appellant's success, (Tr. 39,40 JA 51). These lenses had to be ordered finished from the factory. Lens blanks for processing by optical technicians were not offered until 1963.

The lens blanks were advertised by means of the advertising brochure placed in evidence as Plaintiff's Exhibit 2. (JA 79). This brochure describes the substantial duplicate of Appellant's invention. Eight years after the employees of American Optical Company said there was no prospect of a satisfactory one-piece lens; seven years after Appellant's invention, five years after Appellant successfully produced the product, the American Optical Company offered the lens as its own.

This is the real measure of what was ordinary skill in the art at the time Appellant made his invention. To the highly skilled Patent Office personnel, armed with hindsight the invention seemed obvious. Without hindsight Davis and Clotar said it was impossible. Several years later, their employer copied it.

The conduct of American Optical Company in adopting Appellant's invention is similar to that commented upon in Application of Shuman, 361 F. 2d 1008 at 1012 (C.C.P.A. 1966).

"Appellants have submitted substantial evidence to demonstrate the commercial success of their invention and the adoption of their invention by the writing industry. Appellants submit that 'the invention was not obvious to the general industry prior to the public disclosure of Appellant's invention' and that substantial segments of the industry have copied Appellant's ball construction.

'There is no doubt that such evidence is relevant as bearing on 'secondary consideration' in an inquiry under Sec. 103. Graham v. John Deere Co.' (Cited above)

#### Point TWO

The Court erred in finding that the subject matter of Appellant's claims would be obvious to one skilled in the art in view of the prior art. (Finding of Fact Nos. 6 and 9 to 12)

The Patent Office officials have drawn the hindsight legal conclusion that it would be obvious to one ordinarily skilled in the art to modify the surface curvatures of the Courmettes to parabolic form in view of Tillyer.

It has been demonstrated under Point One, that a particular group of highly skilled individuals actually did not make this substitution.

Why did this group not make the substitution and why would it not be obvious to one of ordinary skill in the art, at the time the invention was made?

Appellant has been in the optical business for 35 years He has

made and sold other inventions besides the instant one. (Tr 22, JA 41). He may therefore be characterized as being reasonably well skilled in the art, actually, rather than hypothetically, and, by reason of his successful sale of inventions, Appellant might be expected to have somewhat more than ordinary skill and acquaintance with the art in which he has been working for the past 35 years. As stated in the course of the Transcript, pages 30-32 (JA 45,6), the majority of the eyeglasses used in the United States are ground in shops such as his. These shops are not equipped to grind parabolic curves. Eventually (Tr. 37, JA49) after a delay of more than a year and a half of searching, Appellant was able to obtain a mold ground with the proper parabolic curve. Appellant's account of his experiences shows that men of ordinary skill in the art do not have access to optical goods ground with parabolic curves, that it is difficult and expensive to obtain them. So, although the fact of the existence of parabolic optical curves can be freely admitted as known, a person of ordinary skill in the art would recognize the inaccessability of such an expedient and dismiss the thought of using one.

The Appellant, on examination (Tr. 46, JA54) stated that the Tillyer patent lacked adequate directions for carrying it into effect and that he had never seen a lens made in accordance with the Tillyer teaching. (Tr. 50 JA57). If the Tillyer invention had gone into commercial use, it is reasonably likely that a professional with the experience of Appellant, should have seen it, es-

pecially since the patent was owned by a company having as good production facilities as any in the industry. Counsel for appellee made no effort, either by cross examination or by submission of testimony, to explain how the Tillyer patent might be made operative.

A current comment on "paper" patents such as Tillyer is found in American Cyanamid Co. v. Hercules Inc. 151 U.S.P.Q. 488, 493, 496 (D.C. Del.)

"... Second, the '935 patent is a "paper patent", one that has never been commercially exploited. Traditionally the courts have looked askance upon efforts to enforce paper patents, developing the doctrine that they are to be strictly construed." (p. 493)

"The plaintiff's non-use of the '935 patent, and the defendant's corresponding success with Kymeme 557 brings to mind an established line of patent cases which holds that paper patents should not be permitted to blanket an industry, forcing the manufacturer of a commercially successful product to pay tribute." (p. 495)

The Berry case contains an excellent restatement of the doctrine. There the plaintiff was the owner of a patent covering the continuous vacuum distillation of petroleum products. The defendant in 1926 marketed a commercially successful distillation unit, and in 1929 the plaintiff, in a renewal application, sought to specifically encompass the defendant's product by altering the general language of the patent. The amendment to the claims of the patent was permitted, and the plaintiff instituted an infringement action. In addition to finding the amendment of the patent improper, the Court embraced the doctrine disfavoring paper patents:

"Since 'no single unit or combination of units as described in the specifications of the Loomis patent, have ever been put into commercial use,' it will be seen that the alleged invention of the patent did in

truth and fact in no way promote the progress of the refining art. (This is) a case where a court should not blanket an industry by enforcing a no-use patent...

'It would...be grossly unfair to compel the builder of a practical working machine to pay tribute to one who has added nothing of substantial value to the art, simply because the language of his claims is broad enough to include the successful structure.'

Standard Oil Development Co. v. James B. Berry Sons Co.,  
92 F. 2d 386, (3 Circ. 1937)

Upon the uncontroverted testimony of the witness who has had long practical experience in the art, at the time of the invention eyeglasses with parabolic lenses were not available in the art. Therefore, it would not have been obvious to one having ordinary skill in the art to make use of a parabolic curve, from whatever the source, to modify a cataract lens such as that of Courmettes.

It may even be that Appellant's counsel, in setting out the invention at the beginning of the Trial, made it appear that the substitution of parabolic grinding for spherical grinding was as simple an act as was the explanation. As a proposition, this may be appealing but the secondary considerations applicable to § 103 enumerated in Graham v. John Deere Co., 383 U.S. 1, 17 are most significant at this point. Here indeed, was a "long felt but unsolved need."

The removal of the opaque lens of the eye, commonly called cataract, was known in ancient Egypt. The use of eyeglasses dates from the Middle Ages. Benjamin Franklin made and used the first bifocals. During all this time, it is obvious that the need for this invention



existed. Davis and Clotar (This Brief p. 13,14) reviewing the subject treated it as hitherto essentially unsolved. The market has been with us for years but an available solution was first offered by Appellant.

The Patent Office and the Trial Court have found that Tillyer suggests a modification of Courmettes. This finding should be weighed in the light of the behavior of all the other persons skilled in the art, having access to Tillyer and Courmettes, prior to Freeman.

One of the more recent discussions of hindsight is found in the case of Arthur J. Schmitt Foundation v. Stockham Valves, Inc. 151 U.S.P.Q. 474,485 (D.C.N.D. Ala. 1966)

"Obviousness should not be determined by hindsight, but must be determined by (1) the differences between the prior art, after the scope and content of the latter have been determined, and the claims at issue, and after the level of ordinary skill in the pertinent art is resolved, Graham v. John Deere Co., 383 U.S. 1,17; 86 S.Ct 684,694 and by (2) an evaluation of historical events and conditions, as stated by the court in Graham:

'Against this background, the obviousness or non-obviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or non-obviousness, these inquiries may have relevancy.'

or, as stated by Judge Hand in Reiner v. I. Leon Co., (2d Cir.) 285 F. 2d 501, 503-504:

'There are indeed some sign posts: e.g. how long did the need exist; how many tried to find the way;

how long did the surrounding and accessory arts disclose the means; how immediately was the invention recognized as an answer by those who used the new variant?'

Point THREE

The Court erred in finding that the Courmettes patent No. 2,574,960 discloses an integrally formed, one-piece plastic cataract bifocal segment lens. (Finding of Fact No. 5)

Finding of Fact No. 5 includes the finding that the Courmettes patent discloses a bifocal lens. It is immediately apparent from an inspection of Figures 2,4 and 7 of the patent (JA85) that the curvature of both the upper and lower portions of the lens is the same so that the magnification afforded by each is also the same. It is well recognized, even in lay circles, that the purpose of the bifocal lens is to give two different kinds of magnification, one for reading and one for distance.

As aptly stated in Finding of Fact No. 7, "Plaintiff in his brief before the Board of Appeals in the instant application admitted the following:

'One piece cast plastic lenses are already known in conventional bifocal types and also for cataract patients in the monofocal type.'

By this specific language, Appellant clearly made the distinction that one piece cast plastic bifocal lenses were not known. This point is less significant than the remaining points but, since

the indicated limitation is found in the appealed claims and missing from the reference, the reference is not available even as a partial anticipation of the claims.

#### Point FOUR

The Court erred in finding that Appellant was required to establish that there was no rational basis for the Patent Office refusal of the claims. (Finding of Fact 13)

It appears from this finding that the Court has considered that this cause is a simple administrative proceeding where the Court is obliged to affirm the Patent Office unless there is no rational basis for the Patent Office decision. In this, the question of patentability is treated as one of fact. Instead, the Supreme Court has recently said that the ultimate question of patent validity is one of law. Graham v. John Deere Co. 383 U.S. 1,17; 86 S.Ct. 684, 694 (1966). The Court, in its Opinion, pays tribute to the high skill and expert opinion of the officials of the Patent Office as well as their neutrality and impartiality. The Patent Office officials have placed upon them a severe burden in the exercise of their impartiality to accommodate their high skill and expertness, acquired from their constant access to all of the pertinent art, to decide what is the ordinary level of skill in the applications before them. Likewise, they must put aside their current understanding of the art, placing themselves in the position of the ordinary individual back when the invention was made.

It is therefore necessary to provide an opportunity for occasional use of the judicial process to test the adherence of the Patent Office to the assigned standard. Although the Patent Office considers factual matters in determining whether ordinary skill has been exercised, whether the judgement has been exercised correctly is a question of law, as the Supreme Court has said, so it is inescapably necessary for a judicial review to take into account the facts underlying the evaluation made by the Patent Office.

The Patent Office refusal of the claims should be tested by the standards of the statutes and the authoritative decisions of the Courts just as the Appellant's invention should be tested by the prior art. That which establishes validity in an issued patent establishes patentability in an application. It is for the Courts to decide the law. The Patent Office should not expect a pro forma decision.

#### CONCLUSION

Appellant has satisfied a long-felt want in providing an eyeglass lens for cataract patients that adds much to their comfort. It is being manufactured without authorization of Appellant by one of the leading optical houses in the country. The Patent Office and the

Trial Court were clearly mistaken in finding the invention obvious to one ordinarily skilled in the art, since it was overlooked by those highly skilled in the art.

Respectfully submitted,

*Keith Misegades*

Keith Misegades  
Attorney for Appellant

#### Certificate of Service

I certify that I have delivered to the Solicitor of the Patent Office, attorney for the Appellee in this case, three copies each of this Brief and the Joint Appendix.

*Keith Misegades*

Keith Misegades  
Attorney for Appellant  
804 Washington Bldg.  
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## Appendix "A"

### The Claims

1. An integrally formed, one-piece, lenticular, bifocal, aphakic, ophthalmic lens, of uniform refractive index, composed of hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface, symmetrical about a central vertical axis at right angles to the optical axis.

2. An integrally formed, one-piece, lenticular, bifocal, aphakic, ophthalmic lens, of uniform refractive index, composed of hard plastic, the outer faces of the distant-vision and near-vision portions of which are each a paraboloidal surface, symmetrical about a central vertical axis at right angles to the optical axis.

3. A bifocal, aphakic, ophthalmic lens, of uniform refractive index, composed of cast hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface, symmetrical about a central vertical axis at right angles to the optical axis.

4. A lenticular, bifocal, aphakic, ophthalmic lens, of uniform refractive index, composed of cast hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface, symmetrical about a central vertical axis at right angles to the optical axis, the inner surface of which is unfinished ready for prescription grinding.

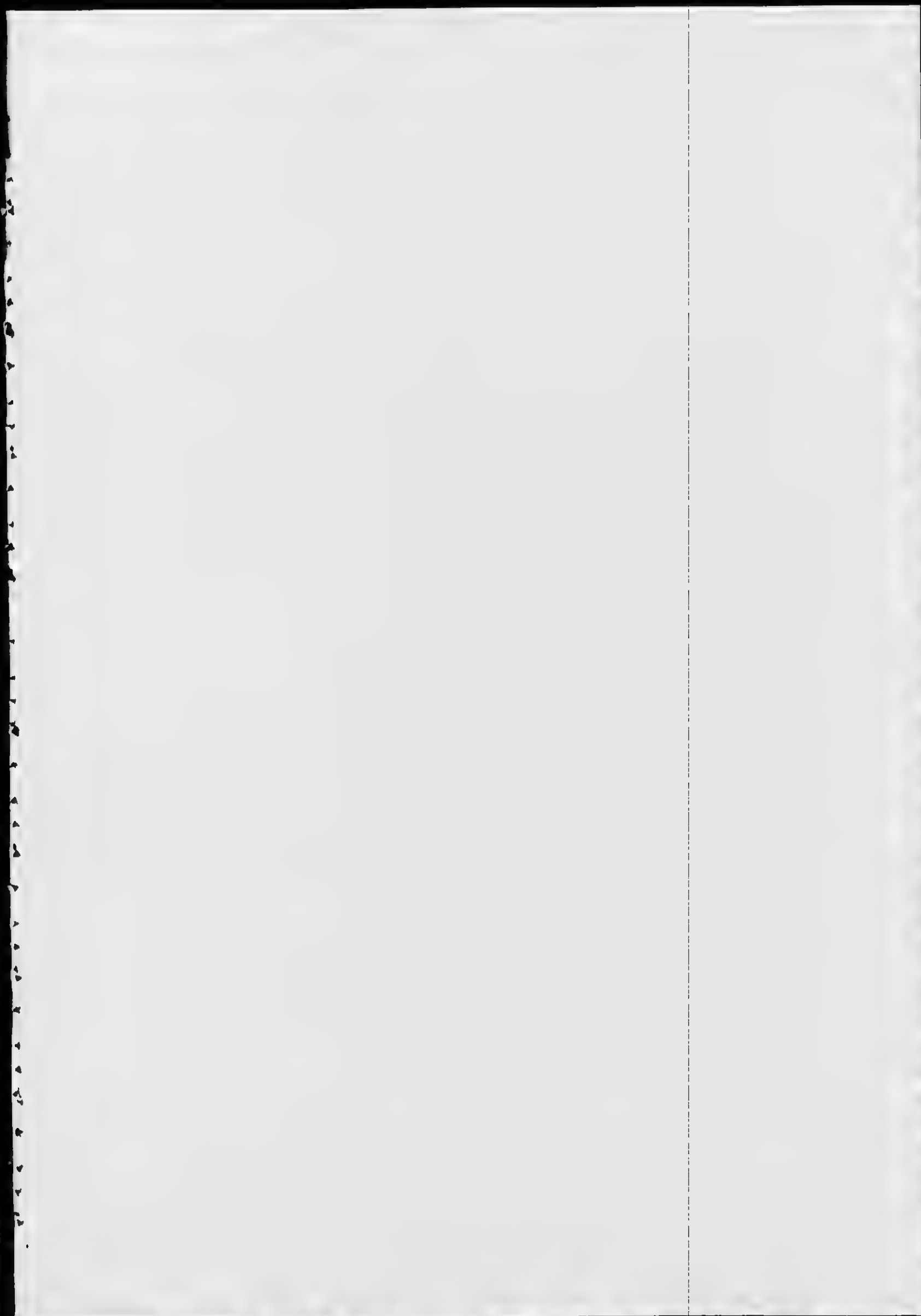


5. A lenticular, bifocal, aphakic, ophthalmic lens of uniform refractive index, composed of hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface symmetrical about a central vertical axis at right angles to the optical axis, said surface being 2 to 3 diopters greater in the center than at the side edges.

6. A lenticular, bifocal, aphakic, ophthalmic lens of uniform refractive index, composed of cast hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface symmetrical about a central vertical axis at right angles to the optical axis, said surface being about 16 diopters at the center and 13 diopters at the side edges.

7. A lenticular, bifocal, aphakic, ophthalmic lens of uniform refractive index, composed of cast hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface symmetrical about a central vertical axis at right angles to the optical axis, said surface being about 14 diopters at the center and 11 diopters at the side edges.

8. A lenticular, bifocal, aphakic, ophthalmic lens of uniform refractive index, composed of cast hard plastic, the outer face of the distant-vision portion of which is a paraboloidal surface symmetrical about a central vertical axis at right angles to the optical axis, said surface being about 12 diopters at the center and 9 diopters at the side edges.



**BRIEF FOR APPELLEE**

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**United States Court of Appeals  
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

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**Appeal No. 20,838**

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**WALTER M. FREEMAN, APPELLANT**

*v.*

**COMMISSIONER OF PATENTS, APPELLEE**

---

**Appeal from the Judgment of the United States  
District Court for the District of Columbia**

---

**JOSEPH SCHIMMEL,**  
*Solicitor, United States Patent Office,*  
*Attorney for Appellee*

**GEORGE C. ROEMING,**  
*Of Counsel*

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United States  
for the

FILED JUL 12 1967

*Walter C. Roeming*  
CLERK

### **STATEMENT OF QUESTIONS PRESENTED**

In the opinion of appellee, the question presented on this appeal is:

Was there a rational basis for the findings of the District Court, on all the evidence before it, that the substance of the refused claims of appellant's instant patent application would, in the light of the Courmettes patent, the Tillyer patent, and the admitted prior art, be obvious to one skilled in the art in the sense of 35 U.S.C. 103?

## INDEX

	Page
Introduction .....	1
Statutes .....	2
Summary of argument .....	2
Argument .....	3
Appellant's burden of proof .....	3
Appellant's new evidence .....	5
Plaintiff's exhibit 2 .....	5
Appellant's allegation that his invention is being copied .....	6
Finding of Fact No. 5 .....	8
Finding of Fact No. 6 .....	10
The person of ordinary skill in this art .....	11
Appellant's attack on the disclosure of the Tillyer patent .....	13
Subsidiary tests of obviousness .....	15
Findings of Fact Nos. 9 through 12 .....	17
Conclusion .....	17

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<i>Abbott et al. v. Coe</i> , 71 App. D.C. 195, 109 F.2d 449 .....	3
<i>Bullard v. Coe</i> , 79 U.S. App. D.C. 369, 147 F.2d 568 .....	14
<i>Dyer v. Coe</i> , 75 U.S. App. D.C. 125, 125 F.2d 192 ..	3
<i>Esso Standard Oil Co. v. Sun Oil Co.</i> , 97 U.S. App. D.C. 154, 229 F.2d 37 .....	3
<i>Goodyear Tire &amp; Rubber Co. v. Ladd</i> , 121 U.S. App. D.C. 275, 349 F.2d 710 .....	3
<i>Graham v. John Deere Co.</i> , 383 U.S. 1 .....	4
<i>Hollingsworth, Application of</i> , CCPA, 210 F.2d 290 .....	15

## II

AUTHORITIES CITED—Continued	Page
<i>International Standard Electric Corp. v. Marzall</i> , 87 U.S. App. D.C. 198, 184 F.2d 592 .....	12
<i>Morgan v. Daniels</i> , 153 U.S. 120 .....	4
<i>Potts v. Coe</i> , 78 U.S. App. D.C. 297, 140 F.2d 470..	3
<i>Radtke Patents Corp. v. Coe</i> , 74 App. D.C. 251, 122 F.2d 937 .....	12
<i>Reiner v. P. Leon Co.</i> , 285 F. 2d 501 .....	16
<i>Siegel v. Watson</i> , 105 U.S. App. D.C. 344, 267 F.2d 621 .....	15
<i>Standard Oil Development Co. v. Marzall</i> , 86 U.S. App. D.C. 210, 181 F.2d 280 .....	5
<i>Smitley, In re</i> , CCPA, 296 F.2d 767 .....	14
<i>Stieg v. Commissioner of Patents</i> , 122 U.S. App. D.C. 361, 353 F.2d 899 .....	4
<i>Watson v. Bersworth</i> , 102 U.S. App. D.C. 187, 251 F.2d 898 .....	3
<i>Western States Mach. Co. v. Hepworth Co.</i> , 147 F.2d 345 .....	14

### STATUTES:

35 U.S.C. 103 .....	12
35 U.S.C. 112 .....	2
35 U.S.C. 282 .....	2



**United States Court of Appeals**  
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**COMMISSIONER OF PATENTS, APPELLEE**

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**Appeal from the Judgment of the United States  
District Court for the District of Columbia**

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**BRIEF FOR APPELLEE**

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**INTRODUCTION**

This is an appeal from the judgment (J.A. 15) of the District Court dismissing the complaint in an action brought under 35 U.S.C. 145.

An adequate statement of the case is found in the District Court's Findings of Fact Nos. 1 through 4 (J.A. 11 and 12).

The specification, drawing, and refused claims of appellant's application appear at pages 25 through 34

of the joint appendix. From the application file are printed also the examiner's answer to appellant's brief before the Board of Appeals (J.A. 15) and the decision of the Board of Appeals (J.A. 21).

Since appellant testified (J.A. 51) that he sold the instant patent application to the Univis Lens Company, the latter appears to be the real party in interest for whose benefit the instant civil action was brought by appellant as an applicant authorized to do so by 35 U.S.C. 145. See Rule 17(a), F.R.C.P.

#### STATUTES

##### 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention. \* \* \*

##### 35 U.S.C. 282:

A patent shall be presumed valid. \* \* \*

#### SUMMARY OF ARGUMENT

In the District Court appellant was the only witness in behalf of himself. Appellant's testimony was correctly found by the District Court to be insufficient to overcome the Patent Office findings of obviousness

in view of the prior patents to Courmettes and Tillyer. Appellant was clearly in error in his testimony as to the Courmettes patent. His testimony as to the sufficiency of the disclosure of the Tillyer patent is clearly inconsistent with the literal incompleteness of his own disclosure. Appellant's evidence fails to establish unobviousness on the basis of subtests such as are mentioned in *Graham v. John Deere Co.*, 383 U.S. 1. It was clearly obvious to one skilled in the art to incorporate the parabolic curve surface of the Tillyer patent into the cast plastic cataract bifocal lens of Courmettes for the purpose of eliminating marginal aberration.

#### ARGUMENT

##### Appellant's burden of proof

In *Abbott et al. v. Coe*, 71 App. D.C. 195, 109 F.2d 449, this Court stated:

Although a court, when it agrees with a Patent Office finding, often says so, agreement is not necessary to affirmance and disagreement is not sufficient for reversal. The question for us is not whether in our opinion there was invention, but whether the finding that there was none is consistent with the evidence.

See also *Dyer v. Coe*, 75 U.S. App. D.C. 125, 125 F.2d 192; *Potts v. Coe*, 78 U.S. App. D.C. 297, 140 F.2d 470; *Esso Standard Oil Co. v. Sun Oil Co.*, 97 U.S. App. D.C. 154, 229 F.2d 37; *Watson v. Bersworth*, 102 U.S. App. D.C. 187, 251 F.2d 898. In *Goodyear Tire & Rubber Co. v. Ladd*, 121 U.S. App. D.C. 275,

276, 349 F.2d 710, 711, this Court stated the same substance in the following different terms:

The Patent Office's expertness in determining technical questions such as obviousness require affirmance of its judgments unless they have no rational basis.

Relying on *Graham v. John Deere Co.*, 383 U.S. 1, 17, appellant in effect asserts (brief, page 22) that *patentability* is a question of law and that the District Court improperly treated it as one of fact. In the *Graham* case, *supra*, the Supreme Court did not, like appellant, confuse patentability and obviousness when it stated (383 U.S. 17):

Approached in this light, the § 103 additional condition, when followed realistically, will permit a more practical test of patentability. The emphasis on non-obviousness is one of inquiry, not quality, and, as such, comports with the constitutional strictures.

While the ultimate question of patent validity is one of law, *A. & P. Tea Co. v. Supermarket Corp.*, *supra*, at 155, the § 103 condition, which is but one of three conditions, each of which must be satisfied, lends itself to several basic *factual* inquiries.

There is nothing in the *Graham* case which is inconsistent with *Morgan v. Daniels*, 153 U.S. 120, 125<sup>1</sup> or with the holdings of this Court in *Stieg v. Commis-*

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<sup>1</sup> Compare *Zenith Radio Corp. v. Ladd*, 114 U.S. App. D.C. 54, 57, 310 F.2d 859, 862, cited by the District Court in its opinion (J.A. 8).

*sioner of Patents*, 122 U.S. App. D.C. 361, 353 F.2d 899 and *Standard Oil Development Co. v. Marzall*, 86 U.S. App. D.C. 210, 213, 181 F.2d 280, 283, both of which latter cases have previously correctly rejected appellant's contention noted above.

Accordingly, appellant has the burden not merely of convincing this Court on a preponderance of evidence that in his application he has disclosed and claimed patentable substance; he has the far heavier burden of proving that the decisions of the Patent Office tribunals and the District Court are inconsistent with (or have no rational basis in view of) all the evidence before the District Court.

#### Appellant's new evidence

Appellant's evidence before the District Court but not before the Patent Office consisted primarily of his own testimony. The District Court in its opinion noted that appellant's opinion testimony was that of a partisan (J.A. 9) and correctly found it insufficient to warrant findings by the Court different from those of the Patent Office. See *Bullard v. Coe*, 79 U.S. App. D.C. 369, 147 F.2d 568.

#### Plaintiff's Exhibit 2

This exhibit (J.A. 79 through 83) is an advertisement of the American Optical Company which, according to appellant's testimony (J.A. 51, 52) relates to substantially the same lens which is disclosed and claimed in appellant's instant application.<sup>2</sup> This ex-

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<sup>2</sup> While the exhibit does not state that the lens is bifocal, it is so shown in the upper drawing at J.A. 81. Appellant testi-

hibit (J.A. 79) pictorially clearly shows the difference as to marginal aberration and distortion ("tunnel vision") between a glass spherical cataract lens and the improved hard plastic paraboloidal cataract lens. See Finding of Fact No. 8 (J.A. 13).

**Appellant's allegation that his invention is being copied**

Appellant (brief, pages 6, 9, 15, 20, 23) contends in effect that he is the first inventor of the subject matter of the claims and that that invention has subsequently been copied by American Optical Company. The contention of copying cannot be and has not been proved in this civil action in which American Optical Company is not a defendant and has had no opportunity to cross-examine appellant, the only witness; to introduce its own evidence as to first inventorship; and otherwise to defend itself against appellant's contention.<sup>3</sup>

Appellant in the instant civil action testified in effect that in the late summer or early fall of 1956 (J.A. 46) he conceived the idea of incorporating a

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fied specifically that it is bifocal (J.A. 51, midpage). Presumably, from appellant's testimony, the plastic of the exhibit is the same as or equivalent to one of the hard plastics described in appellant's instant application (J.A. 27). Appellant's testimony also implies that the aspherical surface of plaintiff's exhibit 2 is either a paraboloidal surface or its aspheric equivalent.

<sup>3</sup> That contention could be proved only in an interference proceeding under 35 U.S.C. 135, in an interference civil action under 35 U.S.C. 146, in an interference civil action under 35 U.S.C. 291, or in a civil action for infringement under 35 U.S.C. 281.



paraboloidal surface in a cataract lens. There is no evidence as to the time when he conceived the more specific substance of his refused claims (J.A. 33). Appellant first approached his patent attorney in December, 1956 (J.A. 50). Appellant filed his parent patent application on July 18, 1957 (J.A. 3, Complaint, par. 3). It was not until May, 1958, (J.A. 49) that appellant obtained a mold for making his cast hard plastic lens (J.A. 49). Appellant did not make and test his first lens until *October, 1958* (J.A. 50). But in *October, 1958*, American Optical Company was already advertising a plastic aspheric bifocal cataract lens with November 15, 1958, as the date for acceptance of orders<sup>4</sup> (J.A. 51). Plaintiff's Exhibit 2 (J.A. 79) is such advertising. Appellant testified that the lens advertised by American Optical in Plaintiff's Exhibit 2 is substantially the same lens as that of his refused claims (J.A. 60; brief, p. 15, 16). But plaintiff's Exhibit 2 attributes the development of the lens to Tillyer who may be the inventor named in patent 1,356,670 (J.A. after 77) and referred to by appellant's counsel as "Dr. Tillyer" (J.A. 54). The foregoing is the total substance of appellant's evidence in support of the charge that appellant is the first inventor and that American Optical Company is copying his development. Appellant's testi-

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<sup>4</sup> The lenses had to be ordered finished from the factory. Every one of those lenses at the time of its unfinished or final state is the substance of all the refused claims. The fact that unfinished lens *blanks* were not sold by American Optical until 1963 is not shown to be more than a restrictive business policy.

mony on this point is insufficient to exclude the possibility that American Optical Company is exploiting a lens *independently* developed by another whose date of invention is prior to or close to that of appellant.

However the District Judge in his opinion found this evidence sufficient to establish that the subject matter of the claims has had some degree of commercial success. That success is not shown to be greater than that which is to be expected by one skilled in the art, when the concept of the Tillyer patent is incorporated into the lens of the Courmettes patent to improve the latter.

#### Finding of Fact No. 5

Appellant (brief, page 21) alleges error in the first sentence of this finding (J.A. 13) Which reads:

The Courmettes patent No. 2,574,960 discloses an integrally formed, one-piece plastic cataract bifocal segment lens.

Appellant testified with respect to this patent (J.A. 53):

It is a spherical lens \* \* \*. The lens having a continuous outside curvature, indicates that the reading portion, so-called reading portion is the same as the distance. \* \* \* The face curve, outside face curve is continuous as a plain sphere. The inside curvatures are flat, one being as flat as the other, which means there is no bifocal distortion or increased magnification in the lower segment, which would serve the purpose of the bifocal.

In the foregoing testimony appellant was clearly in error as will appear from the following.

The Courmettes patent (J.A. after page 77) is entitled "Cataract Bifocal Lens." The patent states:

I obtain these objects, first, with a new one-piece segment lens of the thin edge convex type but of double lenticular form disposed one above the other and in which *its inner side has two differently curved surfaces* strongly inclined to each other \* \* \*. (col. 1, line 10 et seq.) \* \* \*.

\* \* \* the one-piece segment lens 1 is of the thin edge convex lenticular type and is formed, with respect to its *inner side*, to include *two surfaces 2 and 3 which have different curvatures* \* \* \* (col. 2, line 35 et seq.) (emphasis added)

The two surfaces 2 and 3 of different curvatures clearly make the one-piece segment lens bifocal. Appellant was clearly in gross error when he testified as to the Courmettes patent (J.A. 53) that:

The inside curvatures are flat, *one being as flat as the other*, which means there is no bifocal distortion or increased magnification in the lower segment, which would serve the purpose of the bifocal (emphasis added).

In his application appellant refers to the fact that the back surface 4 (Fig. 2) of his lens is finished *in the usual way* with a spherical or cylindrical shape in the range of 1 to 3 diopters. He thus implies that in a usual bifocal lens the differing curvatures of the distant vision portion and the near vision portion are usually in the *front face*. That fact may account for his failure to note that the bifocal effect

in Courmettes is produced by different curvatures on the *back face*.

Finding of Fact No. 6

While appellant's brief mentions this finding (at page 16), it demonstrates no error therein.

The Tillyer patent in its second paragraph states:

This invention relates to ophthalmic lenses for the correction of errors of human vision and particularly to that type of lens which has been corrected for marginal *aberrations of focus*<sup>5</sup> and astigmatism, and in addition thereto further corrected for errors due to the fact that the aperture of the eye has an appreciable magnitude instead of being a point; and the process of making such lenses (emphasis added).

The Tillyer patent further describes (page 2, lines 19 through 29) two methods of making the lens. The second of these (referred to in Finding of Fact No. 6) is described as follows:

\* \* \* or I may calculate such mathematical curves as will give the approximate desired results, and grind the surfaces to these curves on grinding mechanism designed to trace these mathematical curves.

A deformed curve is one which is not a regular spherical, cylindrical, or toric curve, such as hitherto used in the manufacture of ophthalmic lenses but which is a variable curve, such as elliptical, *parabolic*, etc. (emphasis added).

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<sup>5</sup> Plaintiff's Exhibit No. 2 (J.A. after 77), page 1, upper picture, illustrates marginal aberrations. See the description to the left of the picture.

Appellant's brief (at page 6, last paragraph) states in relation to the Tillyer patent:

This patent relates to optical lenses generally and particularly discusses correction of marginal errors of focus and astigmatism, indicating that aberrations may be corrected by a deformed curve such as a parabolic one.

It is submitted that Finding of Fact No. 6 is clearly correct.

**The person of ordinary skill in this art**

Appellant contends repeatedly in his brief that the persons of ordinary skill in the art of optical manufacture and design are the small-shop wholesale or retail opticians like himself who do the largest part of the ordinary optical lens grinding in this country. This contention is untenable and correctly was not accepted by the District Court (J.A. 8, last 8 lines).

The person of ordinary skill in the art of optical manufacture and design is a person trained in the branch of physics known as optics and who is familiar with and understands prior literature (including patents) of this art and who has access to and experience with the prior materials, methods, and apparatus of this art. Such men are found in the research laboratories of the larger optical companies. To apply appellant's definition of the person of ordinary skill in this art would clearly have the effect of granting patents which would unconstitutionally remove from the public domain an important portion of existent knowledge. See *Graham*

*v. John Deere Co.*, 383 U.S. 1, 6. See also *Radtko Patents Corp. v. Coe*, 74 App. D.C. 251, 260; 122 F. 2d 937.

By his own testimony appellant establishes that he is not the person of ordinary skill in this art in the sense of 35 USC 103. Appellant testified that he is a wholesale and retail optician (J.A. 40) and that he has been in the optical business for 35 years (J.A. 41). He has obtained and sold a patent for a lock washer for the lens screw on optical frames and a patent "on the grinding and polishing and the method of plastic lenses, a hard plastic known as CR-39"<sup>\*</sup> (J.A. 41). Appellant has contacts with the major optical manufacturers and is familiar with the commercial products that are offered for optical use (J.A. 45). As a wholesale optician he operates a grinding laboratory in which he does surface grinding and edge grinding (J.A. 44). His laboratory like those of other wholesale opticians is not equipped to grind parabolic surfaces (J.A. 46). But the larger optical companies are so equipped and also generally well-equipped (J.A. 49, 51). Appellant testified that he consulted an ophthalmologist, a former professor, "who is very well versed in optics" (J.A. 45). But appellant offered no testimony that he himself had any scientific training which made him well versed in optics. Appellant's testimony establishes only that he is an experienced wholesale and retail optician with no more knowledge of optics than is necessary for his

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<sup>\*</sup> This quoted language is indefinite as its reference to CR-39. None of these patents was introduced in evidence.



business. Although appellant is undoubtedly a very successful man in his independent practice of his speciality, he has not established that he is a person ordinarily skilled in the art of optical manufacture in the sense of 35 USC 103.

**Appellant's attack on the disclosure of the Tillyer patent**

The 1920 Tillyer patent (J.A. after 77) states (page 2, line 35 *et seq.*):

The calculations for determining the curves of the lens follow the usual formulae for calculating lens surfaces and are arrived at in a similar manner; these formulae and methods of calculating lens surfaces may be found in any textbook or treatise on lens grinding. The method of grinding the surfaces, including roughing, smoothing, polishing and finishing is the same as that for regular ophthalmic lenses, using the same kinds of tools and grinding ingredients which are well known in the art.

Appellant (J.A. 54, last 12 lines and J.A. 55, first 8 lines) in his testimony indicated that the Tillyer patent does not teach appellant how to make the Tillyer lens. See also appellant's brief, pages 7 and 9. But in the sense of 35 USC 112, par. 1, "any person skilled in the art" whose understanding makes a patent specification sufficient includes experts. *International Standard Electric Corp. v. Marzall*, 87 U.S. App. D.C. 198, 206, 184 F. 2d 592.

Since appellant has not established that he is even a person of ordinary skill in the art to which the Tillyer patent is addressed, his testimony as to what

the Tillyer patent does not teach him has no significance in the face of the statutory presumption of validity (35 USC 282). That presumption includes the presumption of adequacy of disclosure to meet the requirements of 35 USC 112, paragraph 1, namely adequacy of disclosure to "any person skilled in the art." See *Western States Mach. Co. v. Hepworth Co.* (2d Cir., Hand, J.) 147 F. 2d 345, 348. Appellant's testimony does not provide the substantial proof of inadequacy of disclosure which is required to overcome the presumption. See the *Western States* case, *supra*, and the decisions cited therein.

Appellant states (brief, page 18) that counsel for appellee made no effort, either by cross examination or by submission of testimony, to explain how the Tillyer patent might be made operative. Since appellant-plaintiff has not proved that the disclosure of Tillyer is either inadequate or inoperative and since he, not appellee, has the burden of proof, there clearly was no reason for appellee's counsel to cross-examine appellant or to produce testimony. Moreover, mere proof of inoperativeness of a patent is not proof that it teaches or suggests nothing to the person ordinarily skilled in the art. See *Bullard v. Coe*, 79 U.S. App. D.C. 369, 147 F. 2d 568, and *In re Smitley*, 49 CCPA 803, 296 F. 2d 767.

Appellant's testimony as to inadequacy of the Tillyer disclosure is further *clearly* lacking in substance because it is inconsistent with appellant's own failure to disclose the very substance which he charges is significantly lacking in Tillyer. Compare appellant's

specification (J.A. 25 et seq.) with that of the Tillyer patent and note that appellant's criticism of Tillyer disclosure applies equally to his own. If his own disclosure is sufficient (and the Patent Office does not contend otherwise), Tillyer's is also clearly sufficient.

Appellant further attacks the Tillyer patent as being a paper patent. (J.A. 57, midpage; brief, page 18). That fact is immaterial to any issue before this Court. *Siegel v. Watson*, 105 U.S. App. D.C. 344, 267 F. 2d 621; *Western States Mach. Co. v. S.S. Heworth Co.*, (2d Cir, Hand, J.) 147 F. 2d 345, 350; *Application of Hollingsworth*, CCPA, 210 F. 2d 290, 293.

#### Subsidiary tests of obviousness

Appellant (brief, page 20) attempts to show subsidiary tests of unobviousness. Assuming, as appellant contends, that the need for appellant's lens has long existed, that fact is not controlling where as here, at least one component old element of appellant's solution has not been proved to have long existed prior to appellant's conception.

The specification of appellant's patent application states (J.A. 26, midpage) that it is not practicable to produce glass blanks by molding (casting). The availability of hard plastic<sup>7</sup> suitable for cast lenses is an important factor in the development of appellant's lens. See appellant's testimony at J.A. 46. In the advertisement, Plaintiff's Exhibit 2 (J.A. 83), it is stated:

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<sup>7</sup> Appellant makes no claim that he, an optician, is the inventor of any of the hard plastics specified in his application.

The success of American Optical Company in producing an aspheric lens series rests with the development of AOLITE—a synthetic lens material which lends itself to aspheric fabrication.

Appellant conceived the lens of his claims in 1956 or later (J.A. 46). The Courmettes patent disclosing an integral plastic cataract bifocal segment lens was issued in 1951. There is no evidence that the specific *hard* plastics listed in appellant's application specification (J.A. 27) became available a considerable time before appellant's conception. There is no evidence that all the means for making the lens of appellant's claims were available any considerable length of time before appellant's conception. Thus this is not a case where the availability of all the means over a long period tends to suggest unobviousness in the claimed combination of those means.\*

Appellant also suggests (brief, pages 13 and 14) that the Davis and Clotar article (J.A. last pages) concludes that only a two-piece lens would solve "the problem". But the problem to which Davis and Clotar addressed themselves was that of an achromatic lens, namely a lens which corrects for color or chromatic aberration. Since there is no evidence that appellant's lens corrects for color aberration, Davis and Clotar have addressed themselves to a problem other than appellant's and their conclusions are irrelevant to the

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\* See in *Reiner v. I. Leon Co.* (2d Cir., L. Hand, J.) 285 F.2d 501, 503, 504, the subtest "how long the surrounding and accessory arts disclose the means." Note the reference to this case in *Graham v. John Deere Co.*, 383 U.S. 1, 36.

question of obviousness of the substance of appellant's claims.

**Findings of Fact Nos. 9 through 12**

It is submitted, in view of all the foregoing, that appellant has failed to demonstrate error in any of these findings.

**CONCLUSION**

All of appellant's claims, it is submitted, were properly refused by the Patent Office examiner, the Patent Office Board of Appeals, and the District Court. It is further submitted that the judgment appealed from was correct and should be affirmed.

However, in the unlikely event that the judgment of the District Court should be unqualifiedly reversed, remand to the District Court would be in order for trial of the defense of *res judicata* raised by the amendment to the answer to the complaint (J.A. 10, 11; Finding of Fact No. 4, J.A. 12; Conclusion of Law No. 3, J.A. 14; Opinion, J.A. 9, last 7 lines).

Respectfully submitted,

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REPLY BRIEF FOR APPELLANT

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IN THE

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

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No. 20,838

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WALTER M. FREEMAN,

*Appellant,*

v.

EDWARD J. BRENNER,

Commissioner of Patents,

*Appellee.*

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APPEAL FROM THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA

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United States Court of Appeals  
for the District of Columbia Circuit

FILED SEP 15 1967

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## INDEX

APPELLEE'S THRESHOLD ARGUMENT.....	1
THE "NEW" STANDARD OF PATENTABILITY.....	2
APPLICATION OF THE § 103 TEST.....	3
LEVEL OF SKILL IN THE PERTINENT ART .....	4
The Solicitor's Standard of Skill .....	4
The Patent Office Standard of Obviousness .....	6
THE SECONDARY TESTS .....	9
ADDITIONAL MATTERS .....	10
CONCLUSION .....	11

## CITATIONS

### *CASES:*

Atlantic Works v. Brady, 107 U.S. 192, 200.....	8
Bentley v. Sunset House Distributing Corp., 359 F.2d 140, 143.....	2
*Ex parte Walker, 135 U.S.P.Q. 195.....	6, 8
General Mills Inc. v. Pillsbury Co., 154 U.S.P.Q. 207, 209 .....	2
*Graham v. John Deere Co., 383 U.S. 1, 18 .....	2, 3, 8
In re Herr, 377 F.2d 610.....	10
Hotchkiss v. Greenwood, 11 How. 248.....	5
In re Shuman, 361 F.2d 1008 .....	9
U.S. v. Adams, 383 U.S. 39.....	9

### *TEXT:*

The Supreme Court Review (1966) University of Chicago Press .....	2, 8
---	------

### *STATUTES:*

35 U.S.C. 103 .....	3, 5, 8
35 U.S.C. 131 .....	10
35 U.S.C. 145 .....	1

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\*Cases chiefly relied upon are marked with asterisks.

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*APPEAL FROM THE UNITED STATES DISTRICT COURT  
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**REPLY BRIEF FOR APPELLANT**

**APPELLEE'S THRESHOLD ARGUMENT**

The Patent Office Solicitor emphasizes that appellant:

"... has the far heavier burden of proving that the decisions of the Patent Office tribunals and the District Court have no rational basis in view of the evidence before the District Court."

Stated in such harsh language it would appear that appellant's right of a civil action under 35 U.S.C. 145 and his right of appeal

to this Court were all but illusory. Appellant recognizes that the burden may be heavy but suggests that the Patent Office is not entitled to all the benefits claimed for it by its Solicitor.

The Courts have so repeatedly denigrated the quality of judgment exercised by the Patent Office Examiners that it has become notorious. *Graham v. John Deere Co.*, 383 U.S. 1 at 18. Most frequently the Patent Office application of the standard is too low but, if it is so frequently in error, it hardly is deserving of invariable presumption of correctness in the event of its refusal of a patent.

Appellant does not intend to suggest, as implied by appellee (Brief page 4) that the District Court improperly treated patentability as a matter of fact rather than law. However he does wish to point out that, since the *Graham* decision, the Courts of two Circuits have used it as a basis for review.

"But we think that debate was foreclosed by *Graham v. John Deere Co.* (citations). There it was held that 'the ultimate question of patent validity is one of law.' "  
*Bentley v. Sunset House Distributing Corp.* (CA 9) 359 F.2d 140, 143.

"Plaintiff urges that the trial court's decision is based primarily on fact-finding and cannot be upset unless clearly erroneous. *Graham* teaches that the question of patent validity is one of law. Page 17 of 383 U.S." *General Mills, Inc. v. Pillsbury Co.* (CA 8) (Dec. June 8, 1967) 154 USPQ 207, 209.

### THE "NEW" STANDARD OF PATENTABILITY

The first major review of the Patent Act of 1952 by the Supreme Court is found in *Graham v. John Deere Co.*, 383 U.S. 1 and associated cases. Shepard's Citations for July 1967, published little more than a year following the decision lists nearly four columns of citations.

By way of parenthesis, this decision and those related to it were treated in THE SUPREME COURT REVIEW, (1966) edited by Pro-

fessor Philip B. Kurland of the University of Chicago and published by the University. An article by Edmund W. Kitch reviews these decisions of the Supreme Court on the tests for inventiveness contributing much clarity as a result.

The *Graham* decision contains an authoritative interpretation of the test for invention called for by Section 103, the section particularly in issue in this case. As pointed out in the above *Review*, the standard of invention is non-obviousness. As stated by the Court:

"Under § 103,

1. the scope and content of the prior art are to be determined;
2. differences between the prior art and the claims at issue are to be ascertained; and
3. the level of ordinary skill in the pertinent art resolved.

\* \* \*

Such secondary considerations as

- a. commercial success,
- b. long felt but unsolved needs,
- c. failure of others, etc."

#### APPLICATION OF THE § 103 TEST

It is not always possible to consciously separately consider the first and second tests set out above. The District Court in its opinion (JA 7) stated that the Courmettes patent disclosed a cataract lens ground to a spherical curvature while the Tillyer patent disclosed the possibility of using a parabolic form of grinding.

At this point that the District Court judicially concluded as a matter of law, that it would have been obvious to a person of ordinary skill in the art to modify Courmettes in the light of Tillyer.

### LEVEL OF SKILL IN THE PERTINENT ART

The plaintiff offered evidence as to the level of skill possessed by the person of ordinary skill in the art. The Court, while admitting the qualifications of the witness, dismissed the evidence as partisan.

It is submitted that a Judge having long trial experience should, more than any other human being, have the perception to weigh the words of a witness to give the testimony its proper value, rather than avoiding the responsibility by setting it aside as partisan. The quality of the testimony was even demeaned by characterizing it as opinion. Actually the witness, on the basis of his wide contacts in the industry described the education, tools and duties of the typical, average ordinary person skilled in the art.

Instead the Court preferred:

"... the highly skilled and expert opinions of the Patent Office, especially because officials of the Patent Office are neutral and impartial in such matters, as well as acquiring and developing a high degree of skill."  
(JA 9)

These officials stand discredited by the very words of the Court because the standard of the statute is *ordinary* skill, not excessive skill. The Examiners of the Patent Office have an excellent overview of the literature of their art, especially the patents but any individual having wide personal acquaintance with members of the Examining Corps can easily call to mind those having a practical knowledge because there are so few. And it is submitted that intellectual neutrality strongly tends to be partisan.

### The Solicitor's Standard of Skill

The Solicitor contends that the person of ordinary skill is:

"one trained in . . . optics, who is familiar with and understands *all* prior literature (including patents) and who

has access to and experience with the prior materials, methods and apparatus of this art. Such men are found in the research laboratories of the larger optical companies." (Pat. O. Brief, p. 11) (The italic is implied)

There are less than a half dozen such companies in the United States. Obviously no member of the public is entitled to access to the facilities of these companies so the actual extent of this information is not public knowledge.

Countless individuals, prominent in all walks of life, have expressed concern and dismay that invention is becoming the province of organized research. To find it advocated and supported by the public agency responsible for issuing patents leaves this advocate bereft of adjectives. To the Supreme Court Justices in *Hotchkiss v. Greenwood*, 11 How. 248 where the substance of Section 103 originated, the Solicitor's suggestion would be anathema. It makes a mockery of the word "ordinary".

The Solicitor suggests that to apply any standard lower than he proposes would remove existent knowledge from the public domain. He is needlessly disturbed. The statutory standard applies to that which *would* be obvious. The best test of what would be obvious is what was obvious to Davis and Clotar. The authors of Defendant's publication (JA 97) satisfy the Solicitor's standard of those skilled in the art. They were, shortly before the appellant's invention, employees of American Optical Company, one of the largest, if not the largest firms in the business; they were employed in the Research Department of that company; according to the Solicitor's postulate, they were familiar with all the pertinent patent literature including the Courmettes and Tillyer patents; and, according to the introductory portion of their paper, they had actually reviewed what had been done, up to the date of their presentation. The language of their paper clearly makes it obvious that they were unaware of the inven-



tion unless they were being less than frank toward their fellow scientists.

In many instances, there is only the absence of any evidence as to what would be obvious to one skilled in the art. The Davis article amounts to an affirmative statement that the art was reviewed for all of the obvious expedients.

#### The Patent Office Standard of Obviousness

There is a well-recognized standard of obviousness established in the Patent Office and long recognized there. It is set out in *ex parte Walker*, 135 U.S.P.Q. 195. The opinion in that case was written by E. W. Reynolds, First Assistant Commissioner at that time and at the present. Except for a period of service as Technical Advisor to the Court of Customs and Patent Appeals his professional career of 45 years has been devoted to the Patent Office. With such background and authority, the opinion carries especial weight as an indication of the prevailing Patent Office authority and practice. The following language is deemed apt:

"Nor do we see any suggestion in either of the references which would lead anyone having ordinary skill in the art to combine the structure taught by either reference with that taught by the other.

"In order to justify a combination of references such as here suggested, *it is necessary* not only that it be physically possible to combine them, but *that the art contain something to suggest the desirability of doing so.*" (emphasis supplied)

This is the authentic Patent Office evaluation of what constitutes ordinary skill. Such skill is not to be likened to the mechanical information storage of a computing device capable of delivering several unrelated bits of information if the appropriate demands are fed into it. Having the appropriate ordinary skill does presume that

the individual does hypothetically *know* all of the prior art including patents but, having *only ordinary skill*, he is not required to have the skill of a genius or of one armed with after-acquired knowledge in imagining all of the possible ways that expedients disclosed in one patent may be transferred to a second patent. The hypothetical man must have signboards to be found in one or each of the patents or in the common store of knowledge possessed by every such man.

Whether the Courmettes patent means what appellant testified to, as he saw in the drawing of the patent or whether it means what is quoted from its specification is a matter of debate since the Patent Office released the patent copies to the public in such equivocal condition that even a casual reader is confused by the inconsistency. Since Courmettes is later in time than Tillyer and presumed to be familiar with Tillyer as being of at least ordinary skill in the art — because he met that test in having a patent issue to him — he should have suggested the inclusion of Tillyer's teaching, if he himself recognized its significance or if he appreciated the desirability of making the correction. He did not.

Tillyer was another of individuals who met the Solicitor's standards of the extraordinary man; for many years he was the Director of Research of American Optical Company. It is plain from a reading of the portion quoted at the lower half of the Patent Office brief, p. 10, that Tillyer looked upon parabolic grinding as an available tool in the ophthalmic trade. He also, as quoted on the upper part of the same page, contemplates correction of marginal aberrations. These may exist in cataract lenses but it should be understood that such are not the only places where aberrations are found.

Tillyer, in his patent, does not specifically name cataract lenses or suggest the application of any of the expedients he enumerates to the correction of cataract lenses.

Thus, there is no proposal in either Courmettes or Tillyer that suggests the need of drawing upon any quality found in the other, according to the rule as stated in *ex parte Walker* above.

The District Court extended the terms of Section 103 with the aid of after-acquired knowledge. This is a trap that ensnares many but the Section specifically requires that "the subject matter *as a whole* would have been obvious *at the time of the invention was made*. (emphasis added) As the opinion observes, the Tillyer patent suggests the use of parabolic curves for eyeglasses generally. Actually, Tillyer as an eminent scientist, did not make such a suggestion; he pointed out that he was employing well-known expedients, including parabolic curves, to the solution of an eyeglass problem, wholly unrelated to cataracts, to his problem.

The District Court observed:

"It would seem that a person reasonably skilled in the art and working in the field would, as a progressive step forward, adapt a parabolic curve to the lenses involved in this case." (JA 9)

This one sentence containing the words "seem", "reasonably", "step forward" and "adapt", clearly indicates a searching for and an expression of what ought to be rather than an awareness of what the statute requires. Appropriately the District Court quotes for support *Atlantic Works v. Brady*. This decision has been characterized by the writer in THE SUPREME COURT REVIEW above as the outstanding expression of dissatisfaction of the Supreme Court with the "novelty test" for invention, which holds that mere novelty is all that is required to be entitled to a patent. As pointed out, the stricter, "non-obvious" test has been definitely established by *Graham v. John Deere*. The "non-obvious" test may be somewhat more difficult to apply than the "novelty" test but it represents a fairer balance of the interests of both the public and inventors.

However, in the interest of justice, the "non-obvious" test must be applied as a principle of law as laid down by statute and confirmed by the Supreme Court. Inventors should not be required to speculate on the view of a court or an agency as to what the law ought to be. The Patent Office guideline set out by First Assistant Commissioner Reynolds, that, in combining references, there should be some suggestion in one of them, of the desirability of doing so, has the benefit of long standing respect in the Patent Office. Appellant, as the witness in the District Court, explained at some length that apparatus for grinding parabolic curves is not available to the large majority of eyeglass producers. Thus the District Court in assuming that a person reasonably skilled in the art would be led to adapt a parabolic curve to a lens such as Courmettes, rejected the evidence presented. This evidence, being essentially factual, is not subject to any partisan taint. Likewise, there is the negative evidence that, at least from 1946, when Courmettes made his invention, no one proposed it.

Since the Examiners in the Patent Office generally only have access to published literature and have little or no knowledge of the actual practice of the arts they examine, the testimony of the appellant as to the actual as opposed to the hypothetical state of the practice in the art was new evidence.

#### THE SECONDARY TESTS

While commercial success, as such, tends to be held in limited repute, copying represents a strong measure of success. *In re Shuman*, 361 F.2d 1008. *U.S. v. Adams*, 383 U.S. 39, reflects the same view.

Likewise, defendant's Davis publication (JA 97) is evidence of long felt want and failure of others.



## ADDITIONAL MATTERS

The Solicitor suggests that the Univis Lens Company should be joined in this case. (JA 2). Actually, another application than the present one was sold. The Univis Company, although aware of the application upon which this appeal is based, has not expressed a desire to control the later application.

The Solicitor has also suggested that, in the unlikely event of a reversal of the District Court, this case should be remanded to the District Court for consideration of the defense of *res judicata*. Since the decision of the District Court in the case now before this Court, the Court of Customs and Patent Appeals has decided the case of *In Re Herr*, 377 F.2d 610. In a concurring opinion beginning at page 612 Judge Rich takes the position that the doctrine of *res judicata* does not exist in the prosecution of a patent application on an *ex parte* basis in the Patent Office. He points out that every patent application is required by law to be examined. 35 U.S.C. 131. He also reviews the cases from one decided by this Court in 1899 down to the current date. Judge Smith in another concurring opinion starting at page 619 points out the desirability of adding further observations since it is expected that the *Herr* case will materially affect the administrative proceedings. Appellant's counsel is of the opinion that he can add nothing to the thoroughness of these studies.

## CONCLUSIONS

The District Court reached improper conclusions by applying the wrong test of patentability and rejected evidence establishing what was the degree of skill expected of one ordinarily skilled in the art. Apparently the Court was led in this direction by the failure of the Patent Office officials to follow the accepted guideline for the combining of references. The Court failed to recognize that, while the Examiners are generally well-grounded in the literature pertaining to their art, few of them have any acquaintance with its practice.

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